

Nutrition from food, what a concept!



Study after study demonstrate that food nutrients are better than USP vitamins (including those so-called "natural" nutrients that usually contain USP vitamins). Food nutrients are chemically/structurally different than USP nutrients, better absorbed by the body, and better utilized... Just as nature intended.

Food Brand - The Truly Natural Nutrients.

Our Mission

Doctors' Research is dedicated to improving the quality of everyone's life by providing the safest, the best, and the most effective 100% FOOD supplements available through health care professionals.

Our Corporate Values

Doctors' Research demonstrates its commitment to the world by:

Providing only 100% FOOD products from Food Research International, LLC to health care professionals.

Never providing any vitamins or mineral from any USP or inorganic source in our products.

Utilizing environmentally friendly practices in the growing and processing of the foods that go into the dietary supplements.

Never providing any porcine, shellfish, or USA-derived bovine in any products.

Never utilizing gelatin for capsules (or anything else).

Publishing in scientific journals the benefits of 100% whole food nutrients and other ingredients in dietary supplements.

Utilizing techniques which have been proven over decades to provide the best quality 100% food dietary supplements.

Having the very best vegan vitamin and mineral-containing 100% food products on the market. While rocks and petroleum derivatives are apparently legally labled "vegan", they are not 100% food and are not in any FOOD brand products.

Having products tested for quality to insure that they exceed the highest standards in the dietary supplement industry.

Never compromising on providing only those forms of vitamins and minerals as found in real foods along with the naturally-occurring health promoting food substances (such as protein-chaperones and enzymes) as dedicated health care professionals expect.



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1036 W. Grand Avenue, Grover Beach, CA 93433 www.doctorsresearch.com FAX: 1-805-489-0334

Call 1-805-489-7185

doctorsfoodresearch@gmail.com

Doctors' Research, Inc.

Don't break the chain!™

Food. Doctors' Research is about *Food* - Other nutrient companies are not. All professional supplements distributed by Doctors' Research are 100% *Food!* Our slogans, our processes, and our products are all about *Food*. When we at Doctors' Research say, *Don't break the chain!*, we mean don't break the *Food* chain. We are surprised that other supplement companies seem to feel that it is 'natural' for humans to eat synthetic vitamins, most of which are not even the same chemical form (and less of which are in the same structural form) as vitamins found in *Food*. We are surprised that most other supplement companies seem to feel that it is 'natural' to supplement human nutrition with chemically-treated crushed rocks and petroleum derivatives. While nature teaches us that plants have the ability to ingest these types of substances and render them as *Food*, it also teaches us that humans are not plants and should not directly consume crushed rocks.

Humans naturally do not consume soil or other crushed rocks. If they do, medically the condition is termed 'pica' or 'geophagia'. Yet everyday, millions of Westerners (generally unknowingly) consume dozens of industrial processed rocks to 'supplement' their diets--these products normally contain dozens of substances that are not natural for humans to consume. Should people swallow rocks, industrial chemical compounds, petroleum derivatives, ammonia, and cyanide daily? Well, they do. Should your body, or the bodies of your clients, be a dumping ground for these industrial substances? We think not!

We at Doctors' Research understand the need for supplementation, given modern lifestyles and the highly processed foods in the food supply. However, we feel that supplementation should be from *Foods* and that these *Foods* should contain their nutrients in the same chemical and structural forms as those found in real human *Foods*. We also feel that the supplements should contain the *Food* factors needed for proper absorption and utilization. Even modern science recognizes that minerals need protein chaperones for optimal absorption, yet isolated mineral salts (as are commonly found in so-called 'natural' supplements) do not contain them. *Foods* (including the *Foods* used at Food Research International Ltd) do naturally contain these substances.

Foods distributed by Doctors' Research are normally specially-grown, with most being hydroponically farmed (since the US has not established organic standards for hydroponically farmed Foods, we cannot currently label our US products as organic). Our growing processes build on the laws of nature, as it is well known that plants will increase their absorption of nutrients if more nutrients are present in their environment. The plants are then harvested, dried under controlled conditions, and put into forms which allow tableting. The Foods we commonly use include acerola (cherry), citrus, carrots, herbs (various), kelp, nutritional yeast, mushrooms, rice and rice bran, and spinach. Our Foods contain no Genetically Modified Organisms (GMOs), based on average laboratory analysis. In some of our specialty formulas we also include pasture-raised bovine glandulars. Our products do not cause nor contribute to 'yeast-infections' (actually, research suggests that the nutritional yeast we use helps the body combat those types of infections), and the cell wall of our nutritional yeast has also been enzymatically-processed to improve nutrient absorption and decrease the possibility of any food sensitivity.

Because our products are *Food*, it is not necessary to consume them with *Food* (though they certainly can be). Food ingredients sometimes will vary from those listed in our literature. Many people who previously have complained of problems associated with the commonly sold synthetic, crushed-rock, 'natural' vitamin and mineral formulas, have reported that they have been able to tolerate and benefit from our *Food* products.

Our clinical research group is headed up by Robert Thiel who holds a Ph.D. in nutrition science as well as a doctorate in natural health. Dr. Thiel authored the world's leading MEDLINE medical journal article on natural vitamins. Dr. Thiel has been named *Research Scientist of the Year* and *Physician of the Year* plus has received the *Orthomolecular Leadership Award* for his leading edge natural health research. He was also a licensed naturopathic physician in Idaho.

Unlike some companies, we do not engage in slick marketing. Our literature contains solid scientific information--we encourage you to read all of it. We believe that since you are interested in truly natural health, you will recognize the benefits associated with using real *Food* supplementation, as well as the benefits of avoiding industrial chemicals that are in other companies' products. We truly appreciate your interest in our products and trust you will share our story with your clients.

• 100% Food Products • 100% Food Nutrients • Cold Fused and Low Temperature Processed • Grown Nutrients With Assays • • HPLC Validated • Digestive Disintegration Tested Nutrients • Nutrients Grown in an FDA Registered Facility • • Professional Quality Products •

As a health professional, you need to decide whether Foods or industrial chemicals are right for you and your clients.

DOCTORS' RESEARCH DISTRIBUTES 100% FOOD PRODUCTS
Nutrition from food, what a concept!

The Four Mineral Categories

	So-Called "Natural"	Liquid	Chelated	FOOD
Constituents	So-Called "natural" minerals are essentially crushed rocks processed with one or more industrial chemicals.	Normally, dissolved rocks.	Element attached to ? (Varies by supplier)	Minerals in food. A complete food matrix with protein chaperones.
Structure	Mostly crystalline.	Varies.	Varies.	Rounded (as that is how minerals naturally exist in Foods).
Chemical Form	Mineral Salts (rocks processed with industrial acids).	Varies.	Varies.	Mineral attached to food factors.
Utilization	Fair.	Fair. Often better than rocks	Fair. Often better than rocks	BEST-optimized by the presence of protein chaperones needed for nutrient delivery.
Nutrient Toxicity	Possible. Body must dispose of "other half" of chemical compound.	Possible.	Possible	Food contains protective factors which help prevent mineral toxcities.
Fillers, Binders, Artificial Colors	Often, yes.	Often, Yes.	Uncertain.	Rice bran used as a filler. No artificial colors/binders
Type of Nutrient Delivery	No protein chaperones- Chaperones must be found in the body (cannibalization) or in a meal.	Generally void of chaperones found in foods.	Potential chaperones may exist in chelate.	The protein chaperones are part of the food matrix.
Suggested Use For Maximum Utilization	Must be taken with the right foods. High quality meal needed to provide nutrient delivery factors for utilization.	Taken any time. High quality meal needed to provide nutrient delivery factors for utilization.	Taken any time. High quality meal needed to provide nutrient delivery factors for utilization.	Taken any time. 100% of tablet is food with naturally occurring nutrient delivery factors. Ultimate utilization.
This Product is Right For:	Those that believe eating rocks is fine.	People who don't have the time or knowledge to take their supplements with a quality meal.	Those people who prefer the alterations created in chelated minerals.	Everyone who wants the ultimate in nutrient utilization available only in real food.
Advantages	Seemingly low price-smaller tablets.	Greater nutrient utilization than most rocks.	Chelated meal in tablet form.	100% real food.
Disadvantages	Not food. Not natural for humans. Eating rocks can be a sign of geophagia or pica.	Low potency of many minerals.	Chelated is not a defined term and some chelates are really the same as rock minerals.	None known. Humans have been consuming food since pre-history.

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Call 1-805-489-7185 doctorsfoodresearch@gmail.com

The Four Vitamin Categories

	So-Called "Natural"	So-Called "Food Based"	Cultured	FOOD Vitamins
Constituents	So-Called "natural" vitamins are also called USP or pharmaceutical grade.	USP vitamins mixed with some food.	Regular vitamins mixed with food and then cultured.	Vitamins in food. A complete food matrix with protein chaperones.
Structure	Mostly crystalline.	Mostly crystalline.	Uncertain.	Rounded, never crystaline.
Source	Often petroleum derivatives, animal products, and/or hydrogenated sugar.	Often petroleum derivatives, animal products, and/or hydrogenated sugar.	Foods, see below.	Foods, see below.
Type and Quantity of food	No food.	Vitamin value not provided by the added food, but by the synthetic vitamin.	Cultured foods: conceptually like Yogurt, Miso, Sauerkraut. Percentage of food unknown.	Whole "Live" Foods: Carrots, Oranges, Cabbage, etc. 100% Food.
Chemical Form	Usually unnatural.	Usually unnatural.	Unclear.	Natural (has found in Foods).
Utilization	Fair; Can be good when eaten with a high quality meal.	Fair; Possibly enhanced by factors found in the food base.	Assumed better- Enhanced by the food factors found in the food. Perhaps, but not proven, enhanced utilization through culturing.	BEST- Optimized by the presence of the protein chaperone needed for nutrient delivery. Has enhanced utilization.
Nutrient toxicity	Possible, if high amount consumed.	Possible, if high amount consumed.	Not known.	No toxicity associated with vitamins found in plant foods.
Fillers; Binders; Artificial Colors	*Often, Yes.	*Often, Yes.	Uncertain	Rice bran used as a filler/binder. No artificial colors.
Type of Nutrient Delivery	No protein chaperones- Must be found in the body (cannibal- ization) or a meal.	Potential chaperones found in the added food.	Potential chaperones found in foods.	The protein chaperones are part of the food matrix.
Suggested Use For Maximum Utilization	Must be taken with the right foods. High quality meal helpfull for providing nutrient delivery factors for utilization.	Taken any time.	Taken any time.	Taken any time. 100% food with naturally occurring nutrient delivery factors. Ultimate utilization.
This Product is Right For:	Only those who eat high quality meals when taking their tablets and do not prefer real vitamins.	People who don't have the time or knowledge to take their supplements with a quality meal.	Those people who prefer the alterations created in cultured foods.	Everyone who wants the ultimate in nutrient utilization and is interested in real food.
Advantages	Seemingly low price, smaller tablets.	Sometimes increased nutrient utilization than USP vitamins.	Cultured USP vitamins in tablet form.	100% real food. Food is natural for humans.
Disadvantages	No Food. Not in the same chemical/structural form as found in food.	Needs chaperone transformation to be utilized.	Needs chaperone transformation to be utilized.	None known.

^{*} Substances such as di calcium phosphate (a cement-like constituent) used as binders. Colors sometimes added. Although liquid vitamins do not contain binders, we are unaware of any that provide 100% of the RDI of the essential vitamins containing only food.

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Why 100% Real Food?

Health care professionals with an interest in natural health are aware that many of their patients have nutritional problems with their diets. This is most often due to less whole foods in the food supply, food processing, and sometimes poor dietary choices.

Modern technology has devitalized many foods. According to a US Surgeon General's report, 9 of 10 Americans will die of a disease due to nutrition or lifestyle choices.

This simply should not be.

So is the solution to this problem consuming vitamins and minerals in isolated USP (United States Pharmacopeia) forms?

We at Doctors' Research think not!

We are sure, as a health professional, you agree that the solution to technologically overly-refined and overly isolated foods is not to base supplementation on USP isolated "nutrients" (which are not real Food).

Only real foods contain enzymes, protein chaperones, and other substances and co-factors needed for nutrient utilization and transport. There is no reason to give patients inferior formulas that contain isolates that do not include the supporting substances naturally found in foods.

Diet is Important

Dietary choices for your patients are important. Most of them should eat less sweets, hydrogenated fats, refined carbohydrates, and other modern chemically-laden "food."

But while many patients will make some efforts along those lines, as a health professional you know that most will not be willing to make enough changes either quickly enough or long enough to promote optimal health.

Hence there is a real need for 100% food containing dietary supplements. Possibly most of your clients aren't even aware of what they are!

How Can My Patients Know that a Supplement is 100% Food?

Because many companies call their products "natural" or somehow imply that they are "organic" or "whole food," many of your patients probably believe that is what they are getting.

But unless they are taking FOOD brand supplements they probably are consuming isolates (USP vitamins and inorganic mineral salts) which are not food.

In order to tell for sure, it is best to carefully look at the label.

If a supplement product does not state "100% Food" on the label, then it is normally safe to conclude that it is not actually 100% food.

There are some words commonly found on many supplement labels that show that the supplement contains USP vitamins and/or inorganic mineral salts.

The most common words to watch out for are:

Ascorbic acid

Calcium carbonate

Calcium lactate *

Chromium picolinate

Cyanocobalamin

Folic acid

Magnesium oxide

Niacin

Pantothenic acid

Thiamin HCL (or thiamin hydrochloride)

Thiamin mononitrate

Pyridoxine hydrochloride

Vitamin A acetate

Vitamin A palmitate *

Vitamin E acetate

7inc oxide

* Note while this can come from food, it is still an isolate. Mixing foods with these items, as some companies do, does not change their chemical properties. Most companies calling their 'vitamins' as "food-based' or "made with real food," simply put a small amount of food as a 'base' and spray chemical synthetic 'vitamins' on the food. That is similar to what companies do who spray synthetic 'vitamins' on their refined grain cereal products.

For more details (and a more exhaustive list), please see the sections titled The Truth About Minerals in Nutritional Supplements and The Truth About Vitamins in Nutritional Supplements.

Where Do You Get 100% Food Nutrient Supplements?

While many companies seem to imply that they provide 100% food vitamin and mineral supplements, Doctors' Research is the only company that we are aware of that targets health care professionals that has never made label claims based upon USP vitamins and/or inorganic mineral salts (or chelates).

Absolutely the only one.

And you have the catalog of FOOD brand products that it distributes for you to decide which are best for your patients.

What Makes 100% FOOD Supplements the Best?

Dr. Bernard Jensen, an early 20th century advocate of food-based nutrition, once wrote, "When we take out from foods some certain salt, we are likely to alter the chemicals in those foods. When extracted from food, that certain chemical salt, may even become a poison. Potash by itself is a poison, whether it comes from a food or from the drugstore. This is also the case with phosphorus. You thereby overtax your system, and your functions must work harder, in order to throw off those inorganic salts or poisons introduced... The chemical elements that build our body must be in biochemical, life-producing form. They must come to us as food, magnetically, electrically alive, grown from the dust of the earth... When we are lacking any element at all, we are lacking more than one element. There is no one who ever lacked just one element. We don't have a food that contains only one element, such as a carrot entirely of calcium or sprouts totally made of silicon."

Dr. Royal Lee stated, "The best sources of vitamins and minerals are found in whole foods." Dr. Lee felt it was not honest to use the name 'vitamin C' for ascorbic acid. That term 'should be reserved for the vitamin C COMPLEX'.

Unlike companies who imply that their products are only whole foods, our FOOD brand products never contain ascorbic acid or extracted mineral salt nutrients. That is the key to truly natural quality ingredients.

FOOD brand supplements are 100% food as natural doctors of old long advocated.

Why are FOOD brand products the best?

At least 98.97% of vitamins consumed are synthetic isolates, though they are often labeled as natural. Yet, there are no isolated USP nutrients that exist naturally. So, nearly all companies combine synthetic isolates with industrially-processed minerals in order to produce their vitamin-mineral formulas.

FOOD brand products are different.

They never contain any synthetic/isolated USP nutrients.

In order to obtain the potencies of nutrients that members of modern societies need, many of the nutrients in our products are hydroponically-grown to improve the concentration of nutrients in the specific raw foods that we use.

The processes essentially take advantage of a law of nature that a plant will absorb more of a nutrient when that nutrient in more available. Essentially, the plant is fed an enzyme-containing liquid that will be higher in one particular mineral. The plant will absorb more of that mineral, since more of it is present. The nutrient foods are grown in an FDA registered facility.

In reality this is duplicating the process of nature when we create food nutrients. Nature's process takes inorganic, non-food substances from the soil and delivers them to the cells of the plant. This natural process is the merging of different elements into a union creating one. Creating a whole from different elements is nature in action. The best method of creating a union, like those created by nature, between inorganic fractions and the whole food matrix seems to be utilizing hydroponic technologies.

Food Research wanted to supply the best possible form of nutrients so it looked into modern technologies that would be compatible with the natural life processes that nature uses to improve the nutrients in natural plants.

This led to the acquisition of foods combined with a natural cold fusion process. The definition of fusion is the merging of different elements into a union, creating an enhanced whole from different elements. A natural cold fusion process is used to produce superior nutrients that are always 100% food. Enhanced nutrients occur from the merging of specific elements through a living plant into a whole food matrix through low temperature hydroponic farming. The reason that the process is "cold" is in order to preserve the naturally-occurring enzymes and other beneficial substances in the foods. Many of the processes and equipment had to be custom-made or altered to accommodate our need to maintain the fresh frozen raw foods used to create the usable raw materials. Cold fusion processing was not an after thought. No expense was spared to create these cold fusion processes and the state of the art manufacturing plant needed to keep Food Research International products the best available on the planet.

Furthermore, this form of "cold fusion-hydroponic" farming is pesticide free, and hence the quality of the food nutrients produced this way can be considered superior to conventionally grown foods. After they are grown to proper maturity, the plants are then harvested and dried.

No Genetically-Modified Organisms (GMO) have ever been found in our nutrient foods upon average analysis (which means none have ever been detected any time that our nutrients have been tested for them).

These superior foods are also free of artificial colors, preservatives, and similar chemicals. The grown nutrients are

also HPLC (high performance liquid chromatography) validated. The nutrient content of each batch is tested for potency.

FOOD brand supplements represent the best of all worlds: Real food nutrients, in real foods, with naturally occurring substances (such as enzymes, amino acids, lipids, and/or bioflavonoids) bottled and tested for potency.

100% food nutrients, 100% of the time.

What Are Glandulars and Why Are FOOD brand Glandulars Better?

Glandulars are animal tissue extracts that have been consumed by humans for thousands of years. In FOOD brand products, most of these glandulars have been freeze-dried to insure that they contain their natural enzymes, peptides, and hormone precursors. FOOD brand products only use bovine, goat, or wild fish for their glandular products. The source of the bovine glandulars are essentially pasture raised cows from New Zealand—USA bovine is never used. Bovine glandulars are often referred to as *cytotrophins*, meaning *cell foods*.

To prevent the possibility of toxic metal accumulation, the oil from the wild herring fish that is in Omega 3/EPA/DHA has been molecularly-distilled for purity.

Does Food Research Have Vegetarian Products?

Yes, 34 different ones.

All of the FOOD brand listed vitamins and minerals are from vegetarian sources, and they are either wild-crafted or otherwise all grown without preservative, pesticides, fungicides, artificial colors, etc.

Most of the fruits and vegetables listed in the products are organically grown at certified organic farms or wild-crafted. Tests done have found no GMOs (genetically-modified organisms) in any FOOD brand products.

Manufacturing Practices

FOOD brand products are produced and/or distributed in three FDA registered facilities. The two manufacturing facilities have both passed independent audits to insure compliance with the highest GMP standards.

Foods are grown, low temperature dried, and slowly ground so they can become part of a capsule or tablet.



The only "binder" used for the tablets is purified WATER. The only "filler" ever used for capsules is organic brown rice. All capsules are strictly vegan—gelatin is never used.

To insure the highest possible food integrity, all FOOD brand products are made from raw foods. They are processed at low temperatures to retain enzymes and other food components. This is a difficult standard to meet, so especially SLOW processing equipment is often utilized to insure that the products are not processed so quickly as to raise the temperatures enough to destroy naturally occurring enzymes and other food constituents.

Manufacturing Equipment



Wildcrafted and Grown Nutrients

Doctors' Research, Inc. and the two manufacturing facilities used by Food Research LLC are individually US FDA registered facilities.

Many ingredients used in the supplements are organic or wildcrafted and used as they come as harvested from nature. However, they are all tested to meet FDA cGMP standards.

Many products have density food nutrient ingredients that have been specially grown. All specially grown nutrients are grown in the United States of America on the East Coast by a company that has been in business since 1977. Prior to the start of the nutrient growing process, the nutrition media must be diluted, clarified, and pH adjusted. This process provides a consistent feed material important for high nutrient growth, that is also free from unwanted microbial contamination or foreign nutrient related raw materials are purchased from vendors who meet the strict specifications established for these various materials.

To ensure that the process begins with the best ingredients, each batch of raw material undergoes rigorous scientific testing by the appropriate quality control experts. To guarantee that purity, safety and potency standards for the raw materials, intermediates and finished products are met, each of these materials are subject to sampling, and then quarantined until approval. Once the testing is completed and approved, a Certificate of Analysis is issued for each individual batch. All manufacturing is based on a lot numbering system, and every batch has its designated lot number for traceability.

The growing process itself begins by adding water to the appropriate food at 95-105°F. The grown nutrients are natural products derived from a pure culture of Saccharomyces cerevisiae or other food grown in the proper medium under carefully controlled conditions. Certain nutrients are grown by feeding a controlled amount of the pre-bionutrient embedded into an appropriate glycoprotein to the food during the budding and/or growth process. This controlled metabolization process results in a high bionutrient food product in its most natural environment. During the budding and/or growth process, the pre-bionutrient is added to the budding yeast or re-grown food at an exact concentration, then after a predetermined time the food is harvested. The higher density mineral/vitamin food is then thoroughly washed a number of times with purified water. Then the product, upon enzyme treatment, is cold pasteurized, spraydried and packed. These products provide minerals and vitamins in a form that is readily absorbed and bio-available.

Because the cell wall is enzymatically-processed with Saccharomyces cerevisiae, these nutrients do not cause 'yeast infections.' To the contrary the PDR for Herbal Supplements states that Saccharomyces cerevisiae is "antibacterial and stimulates phagocytosis." In other words, it helps support the immune system. Additionally, Europe's Commission E approved the use of Saccharomyces cerevisiae for "Dyspeptic complaints," otherwise known as digestive concerns.

Quality of Food Nutrients

The high nutrient foods are produced using modified OTC drug manufacturing standards. The nutrient growing company has cGMP and GLP protocols in place for the manufacturing of its nutrients. Even though regulations do not require many of these steps, it is believed that by following these strict guidelines, this ensures that the finished product is of superior quality. At the growing plants, two independent outside contractors are responsible for monitoring water quality and pest control on a monthly and biweekly basis, respectively.

The final high products are tested for potency and have been shown to be free of pesticides, herbicides, and heavy metals such as lead.

Quality of the Bottled Food Supplements

All supplements provided are products of the United States of America. The Arizona facility is equipped to provide the highest quality nutritional and dietary supplements available. It combines the Food ingredients, bottles, and labels the 100% food nutrient products. All of the manufacturing rooms are temperature controlled, enclosed with full vacuum and particulate collection equipment in place. These techniques ensure quality and avoid cross contamination. This firm has been in business since the late 1950s.

The manufacturing facilities' dedication to superior quality guarantees an extra level of quality assurance. Rigorous quality assurance measures include quarantining all raw materials until composition, identity, and integrity are confirmed and full documentation provided according to the FDA cGMP standards that are observed. The Arizona facility is inspected monthly to ensure cleanliness and safety guidelines are followed. Thorough materials analysis, visual inspection, and laboratory validation ensure only those products that meet the highest standards for purity, potency and efficacy are released for manufacturing and distribution. Only raw materials that meet or exceed specified quality requirements are then purchased. Once the procured material arrives at that facility they are held until the appropriate quality assurance and quality control teams re-validate the product for identity, purity, and strength.

Tablets are monitored for their size, weight, digestibility, water levels, and integrity. Tableting is done at low enough speeds and temperatures to ensure the integrity of the food components, such as enzymes, that the food naturally contains.

Capsules (always vegan) are monitored for their size, weight, digestibility, and water levels. Capsuling is done at low enough speeds and temperatures to ensure the integrity of the food components, such as enzymes, that the foods naturally contain.

Powders are monitored for their weight and water levels. They are processed at low enough temperatures to ensure the integrity of the food components, such as enzymes, that the foods naturally contain.

On average, the Food vitamin and mineral products are tested 7-9 times to ensure quality.

Packaging

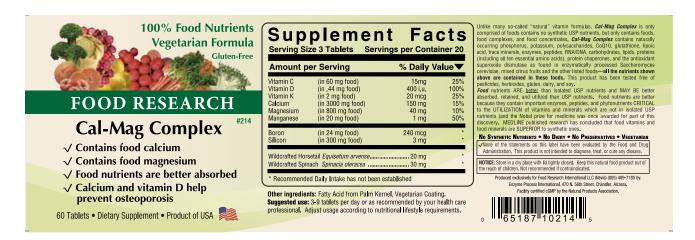
The majority of FOOD brand products are sealed in amber glass bottles. Amber helps protect the food nutrient's from potentially damaging light. Sealing the bottle helps prevent oxidation and helps provide protection from potential product tampering. The glass is recyclable.

All products are bottled/packaged at low enough temperatures to to ensure the integrity of the food components, such as enzymes, that the foods naturally contain. We consider that 100% food products are RAW.

How to Read a Food Research Label

Most companies use synthetic vitamins and/or acid-processed rocks in their vitamin and mineral formulas. Because ground up rocks exist in nature and the US government has not defined the term 'natural,' many companies attempt to imply that their products are natural by using the term natural when they actually put rocks and petroleum derivatives in their products.

Food Research products are different and include information on labels that help consumers realize that they are different.



100% Food Nutrients: This means that the vitamins and/or minerals listed on the label are NOT chemical isolates but are part of one or more foods. The individual foods vary, but basically are low-temperature dried foods and contain the natural constituents of foods.

Vegetarian Formula: This means that the product contains no meat. Other than Probio-Zyme-Yst, the other vegetarian products are vegan, meaning that they also do not contain any dairy-derived components.

Product Name and Statements: This identifies the product. Below the product name are some statements which give some information about the product.

Product of the USA: All Food Research products are mixed, formed, and bottled in the USA. With the possible exception of acerola cherry (which can come from various locations in or out of the USA), the vitamins and minerals shown on the label are always grown in the USA.

Supplement Facts: This is the part of the label that shows how much of a food and/or a food nutrient are in the product. Let us look at information from a typical label on one vitamin:

Vitamin C (in 60 mg food) 15 mg Daily Value 25%

This means that each serving contains 60 mg of a food that is high in Vitamin C which supplies 15mg of Vitamin C, which is 25% of the Daily Recommended Intake by the US government. Understand that the Daily Recommended Intake by the US government is normally based upon synthetic vitamins or acid-processed rock minerals and may not be the same for those found in food.

Let us look at information from a typical label on one mineral:

Calcium (in 3000 mg food) 150 mg Daily Value 15%

This means that each serving contains 3000 mg of a food that is high in Calcium which supplies 150 mg of Calcium, which is 15% of the Daily Recommended Intake by the US government.

Let's look at information from a typical label on one mineral that does not have a Daily Value %:

Boron (in 24 mg food) 240 mcg Daily Value *

This means that each serving contains 24 mg of a food that is high in Boron which supplies 240 mcg (mcg are less than mg) of Boron. The asterisk ('*') shows that there is no specified level Daily Recommended Intake by the US government.

Let's look at information from a typical label on an herbal food:

Wildcrafted Spinach Spinacia oleracea 30 mg food Daily Value *

This means that each serving contains 30 mg of a wildcrafted herbal food commonly known as Spinach. The scientific name, Spinacia oleracea, is also given. The asterisk ('*') shows that there is no specified level Daily Recommended Intake by the US government.

Other Ingredients: This is where items involved in the process or coating of the supplement are shown. Let's look at this section for a typical tableted product:

Other Ingredients: Vegetable coating

This means that a vegan-source enzymatic coating was sprayed on the finished capsule to aid in swallowing. The coating also makes the tablet stay together better in the bottle to a slight degree. The coating is completely digestible and does not interfere with disintegration and bioavailability during the digestive process.

Let's look at this section for a typical encapsulated product:

Other Ingredients: Vegan capsule

This means that a vegan-source capsule surrounds the ingredients shown under the Supplement Facts box. The vegan capsules that are used have been shown to properly disintegrate during the digestive process.

Suggested use: This is a range of the number of servings typically used. Because Food Research products are normally recommended by health care professionals, they may use this as a guideline if they wish.

The Panel on the Far Right: This panel gives general information and also lists any foods that may not have been specifically listed in the Supplement Facts box. It also states that the products are tested to be free of pesticides, herbicides, and various other items as listed.

No Synthetic Nutrients * No Preservatives * No Dairy * Vegetarian: This repeats some of the information elsewhere, but in bold lettering so that it is easier for consumers to notice.

None of these statements on this label have been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, or cure any disease: When nutritional labels contain statements about the products themselves, these type of 'disclaimers' are required by US law/regulations. Doctors' Research, Inc. is a US FDA registered facility and has sent many Food Research labels to the US FDA, but the statements that they have not been evaluated are still required on labels.

Manufacturer and contact information is also on the label as required by US law/regulations.

Facility certified cGMP by the Natural Products Association:

The manufacturer that receives the ingredients, mixes them, encapsulates/tablets them, labels and bottles them is certified cGMP by the Natural Products Association.

Note: Store in a dry place with the lid tightly closed. Keep this natural food product out of the reach of children. Not recommended if contraindicated.: Dried food products have a natural attraction towards water, so keeping them in a dry place with the lid tightly closed helps prevent them from absorbing unnecessary liquids. They are recommended to be kept out of the reach of unsupervised children to prevent them from consuming more than they are given. Products are not recommended if contraindicated. Individual circumstances (pregnancy or health conditions), allergies, potential medications, etc. are possible contraindications, and the product should not be taken if it is contraindicated.

Lot number: Products contain a lot number which makes it possible to track. This is required by US law/regulations.

Most products have an 'EXP' date, which is the date by which we expect them to be consumed. The products do not 'expire' then, but some of the nutrients may be less potent after that date. Products distributed are considered to be fresh when sold and then typically consumed.

Simply Glandulars

Here is information on the 'other ingredients' listed in the Simply Glandular products.

Fatty Acid from Palm Kernel helps with the consistency of the product.

Plant Polysaccharide is a non-GMO corn/rice extract that assists in tableting.

Silica is a natural substance which helps prevent clumping and aids with uniform distribution of nutrients.

Digestive Aid is a non-GMO plant cellulose extract that helps the product digest.

Superior Bioavailability

While FOOD brand labels may be a little more complicated than the typical USP labels, FOOD brand nutrients have vastly superior bioavailability.

Ingesting such products as natural food allows the essential nutrients to get to the damaged cells without the body's immune system rejecting them. Food is the best means to deliver appropriate amount of nutrients to the body. However, it has been stated that 75 percent of the American population is deficient in trace minerals. European investigators have also released a report in 2002 revealing that 40 percent of elderly study subjects did not meet daily requirements for iron and calcium. There are many other valid evaluations that clearly indicate a huge drop in the nutritional values of today's food. Attending to these fundamentals, and the often poorly understood requirements, are a priority consumers need to put at or near the top of their list.

Even as consumers become more interested in the beneficial aspects of nutraceuticals, they are searching for lower doses and easier ways to consume them. Offering products with the natural targeted delivery systems such as Carrier Food Factors (CFF) increases the usefulness of the products. Natural foods and related targeted delivery technologies are generally designed to deliver measurable amount of an ingredient to a specific site as well as to improve the efficacy of a product by routing it to where it is needed the most....same principle as in natural food. Foods and 100% food nutrients result in superior bioavailability.

Products are tested to insure that what is on the label is what is in the bottle.

DF

The first product listed below each category on the following pages is often the first choice. Others on the list should also be considered, but they are simply listed in alphabetical order.

Adrenal Health
Antioxidants

Athletic Performance Support

Bladder Health Blood Health

Blood Sugar Support

Bone Health Brain Health Breast Health Bronchial Health

Calcium Supplementation

Cardiovascular Support

Cholesterol Metabolism Support

Choline Supplementation

Chromium Supplementation

Copper Supplementation

Cytotrophins, Simply Glandulars

Dairy Free

Dental Health, Gums
Dental Health, Teeth
Detoxification, Blood
Detoxification, Colon
Detoxification, Kidney
Digestion, Biliary System
Digestion, Elimination

Digestion, Flora Digestion, pH

Digestion, Salivary

Digestion, Upper GI Support Endocrine Support, Multi

Essential Fatty Acids

Ear Health
Eye Health
Fat Metabolism

Female Hormonal Health

Fertility Support, Female Fertility Support, Male

Folate Supplementation

Gall Bladder Support

Gluten Free

Homocysteine Management Hypothalamus Support Immune Support, Acute Immune Support, Chronic

Immune Support, Gland Specific

Inositol Supplementation

Iron-Free Multi

Iron Supplementation

Joint Health and Lubrication Sup-

port

Kidney Health

Ligament/Tendon Support

Liver Health Lung Health

Lymphatic Function

Male Hormonal Health

Manganese Supplementation

Meal Replacement
Mental Health

Molybdenum Supplementation

Multivitamin Support

Musculoskeletal Function, Acute Musculoskeletal Function, Chronic

Nattokinase Nerve Function Omega Acids

Oxygen Metabolism

Ovary Health

Pancreas Health

pH Balance, Acidifiers pH Balance, Alkalizers

pH Balance, Normalizers

Parathyroid Health

Phosphorus Supplementation

Pineal Health Pituitary Health Placenta Health

Potassium Supplementation

Prenatal Support

Prenatal Support, Final Month

Protein Shake

Respiratory Function

Selenium Supplementation

Skin and Hair Health

Spinal Support
Sports Health
Testicle Health
Thyroid Health
Uterus Health

Vanadium Supplementation
Vegetarian Supplementation
Vitamin A, Alpha & Betacarotene
Vitamin B Family Supplementation

Vitamin C Supplementation Vitamin D Supplementation Vitamin E Supplementation Vitamin K Supplementation

Water Balance

Weight Management Support

Wheat Free

Zinc Supplementation

Adrenal Health

High Stress Adrenal

Anxie-Tone

B Stress Complex

C Complex

Simply Adrenal

Vegetarian Adrenal

Vegetarian Tyrosine

Antioxidants

Herbal Antioxidant

Green Vegetable Alkalizer

Libida-Life

Selenium E

Vitamin-Mineral

Vitamin-Mineral Shake

Wheat Germ Oil E

Zinc Complex

Athletic Performance Support

Cardio-Power

Anxie-Tone

Vitamin-Mineral

Vitamin-Mineral Shake

Wheat Germ Oil E

Bladder Health

Arginase Bladder

Green Vegetable Alkalizer

Thymo-Immune

Vira-Bac-Yst

Uro-Kid Support

Blood Health

Hematic Formula

Green Vegetable Alkalizer

Nattokinase

Blood Sugar Support

Gluco-Sugar-Balance

B Stress Complex

Simply Pancreas

Vitamin-Mineral

Vitamin-Mineral Shake

Bone Health

Cal-Mag Complex

Calcium Complex

Vitamin-Mineral

Brain Health

Serious Brain Enhancer

Omega 3/EPA/DHA

Wheat Germ Oil E

Breast Health

Simply Mammary

Le Feminine Advantage

Bronchial Health

Aller-Lung Support

Intracellular Cough

Thymo-Immune

Calcium Supplementation

Calcium Complex

Advanced Joint Complex

Cal-Mag Complex

Cardiovascular Support

Cardio-Power

Co-Q10 Cardio

Simply Cardio

Cholesterol Metabolism Support

Cholester-Right

Choline Complex

GB Support

Inositol Complex

Liva DeTox & Support

Vitamin-Mineral Shake

Choline Supplementation

Choline Complex

Anxie-Tone

Vitamin-Mineral

Vitamin-Mineral Shake

Chromium Supplementation

Gluco-Sugar-Balance

Metabolic Thyro

Migratrol

Vitamin-Mineral

Vitamin-Mineral Shake

Copper Supplementation

Vitamin-Mineral

Cytotrophins, Simply Glandulars

Simply Adrenal

Simply Cardio

Simply Hypothalamus

Simply Liver

Simply Lung

Simply Mammary

Simply Orchic

Simply Ovary

Simply Pancreas

Simply Spleen

Simply Thymus

Simply Thyroid

Simply Uterus

All other glandular-containing Products.

Dairy Free

All products are dairy-free except Probio-Zyme-Yst

Dental Health, Gums

C Complex

Herbal Antioxidant

Dental Health, Teeth

Cal-Mag Complex Vitamin-Mineral

Detoxification, Blood

Detox-N-Cleanse Green Vegetable Alkalizer Liva DeTox & Support Simply Liver Simply Spleen

Detoxification, Colon

Probio-Zyme-Yst Arginase Bladder Detox-N-Cleanse Digesti-Pan GB Support Para-Dysbio-Zyme

Detoxification, Kidney

Arginase Bladder Uro-Kid Support Liva DeTox & Support

Digestion, Biliary System

GB Support Choline Complex Liva DeTox & Support Simply Liver Simply Spleen

Digestion, Elimination

GB Support
Digesti-Pan
Magnesium Complex
Para-Dysbio-Zyme
Probio-Zyme-Yst
Pro-Enzymes

Digestion, Flora

Probio-Zyme-Yst Pro-Enzymes

Digestion, pH

Probio-Zyme-Yst Digesti-Pan Green Vegetable Alkalizer

Digestion, Salivary

Complete Smell & Taste

Digestion, Upper GI Support

Digesti-Pan Pro-Enzymes Simply Pancreas

Endocrine Support, Multi

Intracellular Cough Le Feminine Advantage

Essential Fatty Acids

Omega 3/EPA/DHA Wheat Germ Oil E

Ear Health

Complete Ear Health Advanced Joint Health Vitamin-Mineral

Eye Health

Complete Eye Health Green Vegetable Alkalizer Vitamin-Mineral

Fat Metabolism

GB Support Choline Complex Inositol Complex Liva DeTox & Support Pro-Enzymes

Female Hormonal Health

Le Feminine Advantage Complete Ear Health Libida-Life Simply Mammary Simply Ovary Simply Uterus Vitamin-Mineral Vitamin B6, B12, & Folate

Fertility Support, Female

Simply Ovary Libida-Life Vitamin-Mineral

Fertility Support, Male

Prosta-Power Libida-Life Simply Orchic Vitamin-Mineral

Folate Supplementation

Vitamin B6, B12 & Folate Vitamin-Mineral Vitamin-Mineral Shake

Gall Bladder Support

GB Support Digesti-Pan

Gluten Free

All products are gluten-free except Probio-Zyme-Yst

Homocysteine Management

Vitamin B6, B12, & Folate B Stress Complex GB Support

Hypothalamus Support

Simply Hypothalamus Anxie-Tone Restful Mind Support

Immune Support, Acute

Thymo-Immune C Complex Conga-Immune Herbal Antioxidant Vira-Bac-Yst Vira-Chron Zinc Complex

Immune Support, Chronic

Thymo-Immune Conga-Immune Intracellular Cough Simply Spleen Vira-Bac-Yst Vira-Chron

Immune Support, Gland Specific

Arginase Bladder
Cal-Mag Complex
Cardio-Power
Complete Ear Health
Complete Eye Health
Complete Smell & Taste
High Stress Adrenal
Restful Mind Support
Simply Adrenal
Simply Cardio
Simply Hypothalamus

Simply Hypothalamu Simply Liver Simply Lung Simply Mammary Simply Orchic Simply Ovary Simply Pancreas Simply Spleen Simply Thymus Simply Thyroid Simply Uterus Uro-Kid Support Vegetarian Adrenal Vegetarian Thyro

Inositol Supplementation

Inositol Complex Anxie-Tone Vitamin-Mineral Vitamin-Mineral Shake

Iron-Free Multi

Vitamin & Mineral Shake

Iron Supplementation

Hematic Formula Vitamin-Mineral

Joint Health and Lubrication Support

Advanced Joint Complex Cal-Mag Complex Inflam-Enzymes Magnesium Complex Omega 3 /EPA/DHA

Kidney Health

Uro-Kid Support Arginase Bladder

Ligament/Tendon Support

Inflam-Enzymes Cal-Mag Complex Cardio-Power Magnesium Complex

Liver Health

Liva DeTox & Support Aller-Lung Support Choline Complex GB Support Green Vegetable Alkalizer Inositol Complex Simply Liver

Lung Health

Simply Lung Aller-Lung Support

Lymphatic Function

Simply Spleen Aller-Lung Support Simply Thymus Thymo-Immune Intracellular Cough

Male Hormonal Health

Prosta-Power Libida-Life Simply Orchic

Magnesium Supplementation

Magnesium Complex Advanced Joint Complex Cal-Mag Complex Inflam-Enzymes

Manganese Supplementation

Inflam-Enzymes
Cal-Mag Complex
Vitamin-Mineral
Vitamin-Mineral Shake

Meal Replacement

Vitamin & Mineral Shake

Mental Health

Serious Brain Enhancer

Anxie-Tone

Inositol Complex

Le Feminine Advantage

Libida-Life

Magnesium Complex

Metabolic Thyro

Migratrol

High Stress Adrenal

Restful Mind Support

Simply Hypothalamus

Simply Orchic

Vegetarian Tyrosine

Wheat Germ Oil E

Molybdenum Supplementation

Vitamin-Mineral

Vitamin-Mineral Shake

Multivitamin Support

Vitamin-Mineral

B Stress Complex

Green Vegetable Alkalizer

Vitamin-Mineral Shake

Musculoskeletal Function, Acute

Inflam-Enzymes

Advanced Joint Complex

Magnesium Complex

Omega 3 EPA/DHA

Musculoskeletal Function, Chronic

Cal-Mag Complex

Advanced Joint Complex

D Complex

Omega 3 EPA/DHA

Nattokinase

Nattokinase

Nerve Function

Anxie-Tone

Choline Complex

Inositol Complex

Libida-Life

Omega 3 EPA/DHA

Restful Mind Support

Serious Brain Enhancer

Simply Hypothalamus

Vegetarian Tryptophan

Vegetarian Tyrosine

Wheat Germ Oil E

Omega Acids

Omega 3/EPA/DHA Wheat Germ Oil E

Oxygen Metabolism

Cardio-Power

C Complex

Co-Q10 Cardio

Hematic Formula

Herbal Antioxidant

Selenium E

Wheat Germ Oil E

Ovary Health

Simply Ovary

Le Feminine Advantage

Pancreas Health

Simply Pancreas

Digesti-Pan

Gluco-Sugar-Balance

Vitamin-Mineral

pH Balance, Acidifiers

Digesti-Pan

Arginase Bladder

pH Balance, Alkalizers

Green Vegetable Alkalizer

pH Balance, Normalizers

Probio-Zyme-Yst

Parathyroid Health

Cal-Mag Complex

Phosphorus Supplementation

Green Vegetable Alkalizer

Pineal Health

Restful Mind Support

Vegetarian Tryptophan

Pituitary Health

Migratrol

Restful Mind Support

Placenta Health

Simply Uterus

Potassium Supplementation

Green Vegetable Âlkalizer

All food products naturally contain potassium

Prenatal Support

Vitamin-Mineral

Calcium Complex

Hematic Formula

Magnesium Complex

Prenatal Support, Final Month

Simply Uterus
Vitamin-Mineral
Calcium Complex
Magnesium Complex

Protein Shake

Vitamin-Mineral Shake

Respiratory Function

Aller-Lung Support Intracellular Cough Simply Lung Thymo-Immune Vira-Bac-Yst

Selenium Supplementation

Selenium E
Cardio-Power
Complete Eye Health
Prosta-Power
Serious Brain Enhancer
Vitamin-Mineral

Skin and Hair Health

Vitamin-Mineral Green Vegetable Alkalizer Omega 3/EPA/DHA Wheat Germ Oil E Zinc Complex Simply Adrenal

Spinal Support

Inflam-Enzymes
Advanced Joint Complex
Cal-Mag Complex
Magnesium Complex
Omega 3/EPA/DHA

Sports Health

Cardio-Power
Advanced Joint Health
Vitamin-Mineral
Vitamin-Mineral Shake
Wheat Germ Oil E
Simply Cardio

Testicle Health

Simply Orchic Libida-Life Prosta-Power Zinc Complex

Thyroid Health

Metabolic Thyro Green Vegetable Alkalizer Migratrol Selenium E Simply Hypothalamus Simply Thyroid Vegetarian Thyro Vegetarian Tyrosine Vitamin-Mineral

Uterus Health

Simply Uterus Le Feminine Advantage Libida-Life

Vanadium Supplementation

Gluco-Sugar-Balance Vitamin-Mineral

Vegetarian Supplementation

Aller-Lung Support B Stress Complex C Complex Cal-Mag Complex Calcium Complex Cholester-Right

Cholester-Right Choline Complex Co-Q10 Cardio D Complex

Detox-N-Cleanse Gluco-Sugar-Balance Green Vegetable Alkalizer Hematic Formula

Hematic Formula Herbal Antioxidant Inflam-Enzymes Inositol Complex Libida-Life Magnesium Complex

Nattokinase
Para-Dysbio-Zyme
Pro-Enzymes
Probio-Zyme-Yst
Selenium E
Vegetarian Adrenal
Vegetarian Thyro

Vegetarian Tryptophan Vegetarian Tyrosine Vira-Bac-Yst Vira-Chron

Vitamin-Mineral Vitamin-Mineral Shake Vitamin B6, B12, & Folate Wheat Germ Oil E

Zinc Complex

Vitamin A, Alpha & Betacarotene

Vitamin-Mineral Vitamin-Mineral Shake

Vitamin B Family Supplementation

B Stress Complex Anxie-Tone Cardio-Power Hematic Formula Vitamin-Mineral Vitamin-Mineral Shake

Vitamin B6, B12, & Folate

Vitamin C Supplementation

C Complex Advanced Joint Complex Anxie-Tone **B Stress Complex** Cal-Mag Complex Cardio-Power Complete Eye Health Hematic Formula Herbal Antioxidant High Stress Adrenal Serious Brain Enhancer Thymo-Immune Vitamin-Mineral

Vitamin D Supplementation

D Complex Advanced Joint Complex Cal-Mag Complex Vitamin-Mineral Vitamin-Mineral Shake

Vitamin-Mineral Shake

Vitamin E Supplementation

Selenium E Cardio-Power Complete Eye Health Herbal Antioxidant Prosta-Power Vitamin-Mineral Vitamin-Mineral Shake Wheat Germ Oil E

Vitamin K SupplementationGreen Vegetable Alkalizer

Vitamin-Mineral

Water Balance

Arginase Bladder Green Vegetable Alkalizer **Uro-Kid Support**

Weight Management Support

All thyroid support products Gluco-Sugar-Balance Green Vegetable Alkalizer Vitamin-Mineral Vitamin & Mineral Shake

Wheat Free

All products are wheat-free except Probio-Zyme-Yst and Wheat Germ Oil E

Zinc Supplementation

Zinc Complex Vitamin-Mineral

Advanced Joint Complex



Advanced Joint Complex is a 100% Food supplement that is intended to supply nutrients, glandulars, and herbs needed to maintain optimal joint health. Bovine tracheal tissue naturally supplies chondrocytes including glucosamine and chondroitin. Herbs, like devil's claw, have long been used to support joint health.

Aller-Lung Support



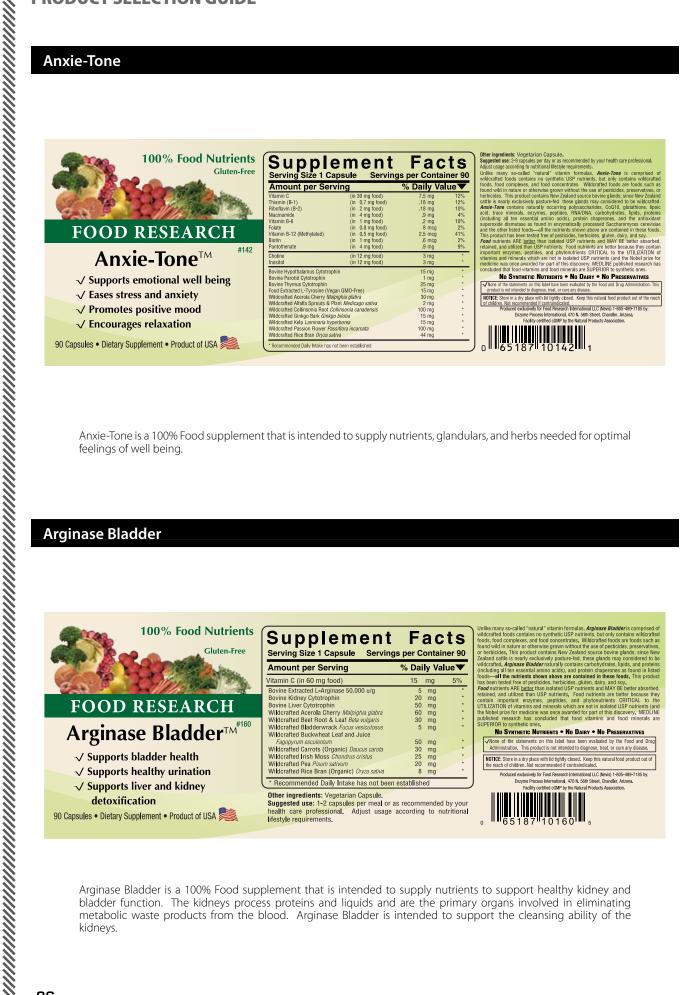
Aller-Lung Support is a 100% vegetarian Food supplement that is intended to supply nutrients needed to maintain and support optimal sinus, lung, and immune system health.

Anxie-Tone



Anxie-Tone is a 100% Food supplement that is intended to supply nutrients, glandulars, and herbs needed for optimal feelings of well being.

Arginase Bladder



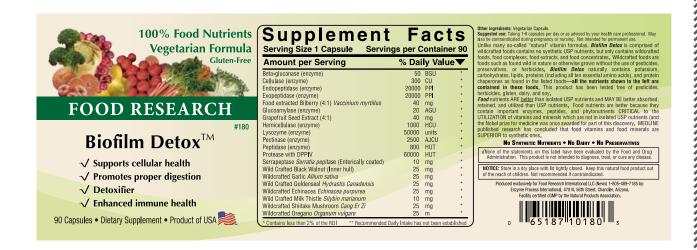
Arginase Bladder is a 100% Food supplement that is intended to supply nutrients to support healthy kidney and bladder function. The kidneys process proteins and liquids and are the primary organs involved in eliminating metabolic waste products from the blood. Arginase Bladder is intended to support the cleansing ability of the kidneys.

B Stress Complex



B Stress Complex is a 100% vegetarian Food supplement that is intended to supply 100% Food B vitamins. Unlike certain so called "whole food" B vitamin sources, it does not contain isolated USP niacinamide, pyridoxine hydrochloride, or any isolated "nutrients". Studies have shown that FOOD B vitamins are between 38% and 294% better absorbed into the blood that compared with typical USP B vitamins.

Biofilm Detox



Biofilm Detox is a 100% vegetarian Food supplement that is intended to supply enzymes, detoxifiers, and herbs needed to maintain and support optimal digestive and immune system health. The enzymes and herbs, and probiotics in this product are all plant source. This is a true vegan digestive and biofilm detoxifying product.

C Complex



C Complex is a 100% vegetarian Food supplement that is intended to supply 100% Food vitamin C. Unlike some other so-called "whole food" vitamins, it does not contain any isolated ascorbic acid. Royal Lee claimed that ascorbic acid was not vitamin C. Food vitamin C is an antioxidant and has long been recognized as an important nutrient for supporting cardiovascular, immune, musculoskeletal, endocrine, and other systems. Studies have shown that FOOD vitamin C has at least 17 times the antioxidant effect of USP ascorbic acid and is superior for optimal human health.

Cal-Mag Complex



Cal-Mag Complex is a 100% vegetarian Food supplement that is intended to supply 100% Food minerals and vitamins to support optimal bone health. It does not contain mineral salts like most "natural" calcium-magnesium products do as the consumption of crushed rocks is not considered to be optimal for long-term health. Studies have shown that FOOD calcium is up to 8.79 times better absorbed, FOOD magnesium is 2.20 times better absorbed, and FOOD manganese is 63% better retained than typical USP rock mineral salts.

Calcium Complex



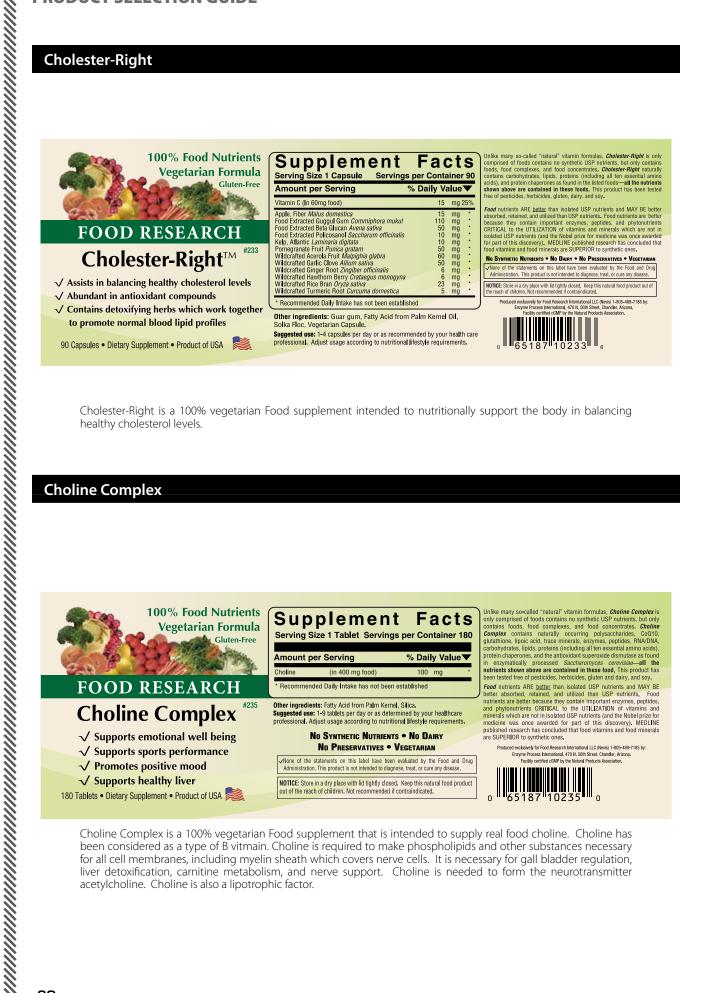
Calcium Complex is a 100% vegetarian Food supplement that is intended to supply 100% Food calcium. Research has shown in groups of people who consume 300 mgs of Food calcium per day or less from plant sources that they have low incidences of osteoporosis. 100% Food Calcium Complex is a plant source of calcium. It does not contain calcium mineral salts such as calcium carbonate, calcium citrate, or calcium lactate. Studies have shown that FOOD calcium is up to 8.79 times better absorbed and better retained than typical USP rock mineral salts.

Cardio-Power



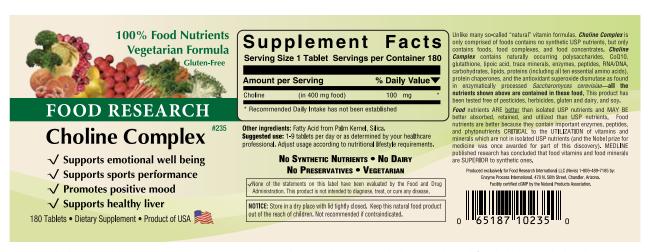
Cardio-Power is a 100% Food supplement that is intended to supply nutrients, glandulars, and herbs needed to maintain and support optimal cardio-muscle health. The heart pumps blood containing oxygen and other nutrients throughout the body. Bovine heart tissue naturally contains vital heart nutrients like co-enzyme Q10.

Cholester-Right



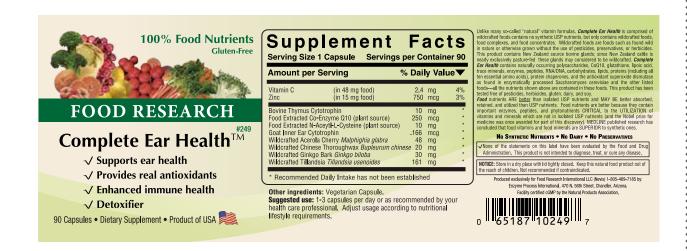
Cholester-Right is a 100% vegetarian Food supplement intended to nutritionally support the body in balancing healthy cholesterol levels.

Choline Complex



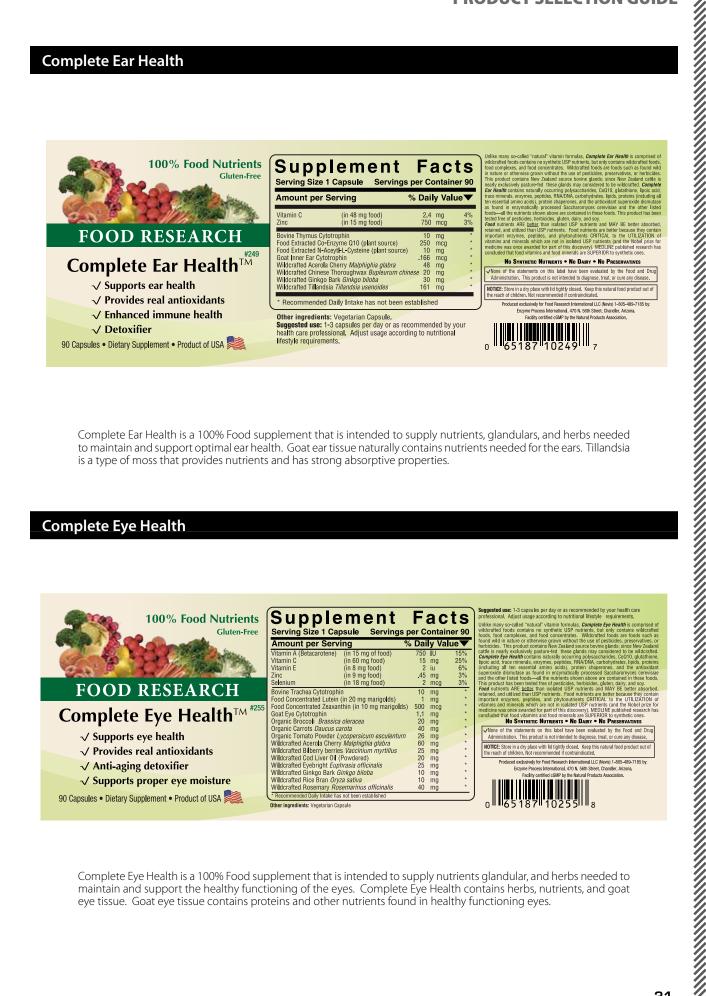
Choline Complex is a 100% vegetarian Food supplement that is intended to supply real food choline. Choline has been considered as a type of B vitmain. Choline is required to make phospholipids and other substances necessary for all cell membranes, including myelin sheath which covers nerve cells. It is necessary for gall bladder regulation, liver detoxification, carnitine metabolism, and nerve support. Choline is needed to form the neurotransmitter acetylcholine. Choline is also a lipotrophic factor.

Complete Ear Health



Complete Ear Health is a 100% Food supplement that is intended to supply nutrients, glandulars, and herbs needed to maintain and support optimal ear health. Goat ear tissue naturally contains nutrients needed for the ears. Tillandsia is a type of moss that provides nutrients and has strong absorptive properties.

Complete Eye Health



Complete Eye Health is a 100% Food supplement that is intended to supply nutrients glandular, and herbs needed to maintain and support the healthy functioning of the eyes. Complete Eye Health contains herbs, nutrients, and goat eye tissue. Goat eye tissue contains proteins and other nutrients found in healthy functioning eyes.

90 Capsules • Dietary Supplement • Product of USA

Complete Smell and Taste



No Synthetic Nutrients • No Dairy • No Preservatives

None of the statements on this label have been evaluated by the Food and Dru-Administration. This product is not intended to diagnose, treat, or cure any disease.

ed exclusively for Food Research International LLC (Nevis) 1-805-489-7185 by Enzyme Process International, 470 N. 56th Street, Chandler, Arizona. Facility certified cGMP by the Natural Products Association.



Complete Smell and Taste is a 100% Food supplement that is intended to supply nutrients, glandulars, and herbs needed to maintain and support optimal olfactory and tongue health. Complete Smell and Taste contains goat tongue and olfactory tissues which contain proteins and other nutrients found in properly functioning taste and smell receptors. Parotid glands support the salivary process and the health of the glands.

Conga-Immune



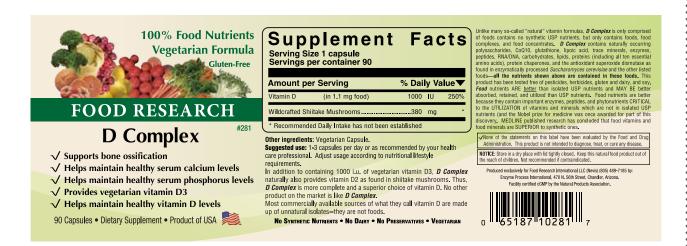
Conga-Immune is a 100% Food supplement that is intended to supply nutrients needed to maintain and support optimal thymus, throat, and immune system health. Bovine thymus tissue helps maintain the thymus gland in a good state of repair to support healthy thymus function. Bovine bone marrow supports the nutritional of b lymphocytes. Echinacea primarily supports the non-specific cellular immune system by helping certain types of white blood cells during phagocytosis. Conga-Immune contains Acerola cherry which is one of the most vitamin C dense foods. Its other ingredients provide support for a healthy immune system and/or throat health, such as food zinc.

Co-Q10 Cardio



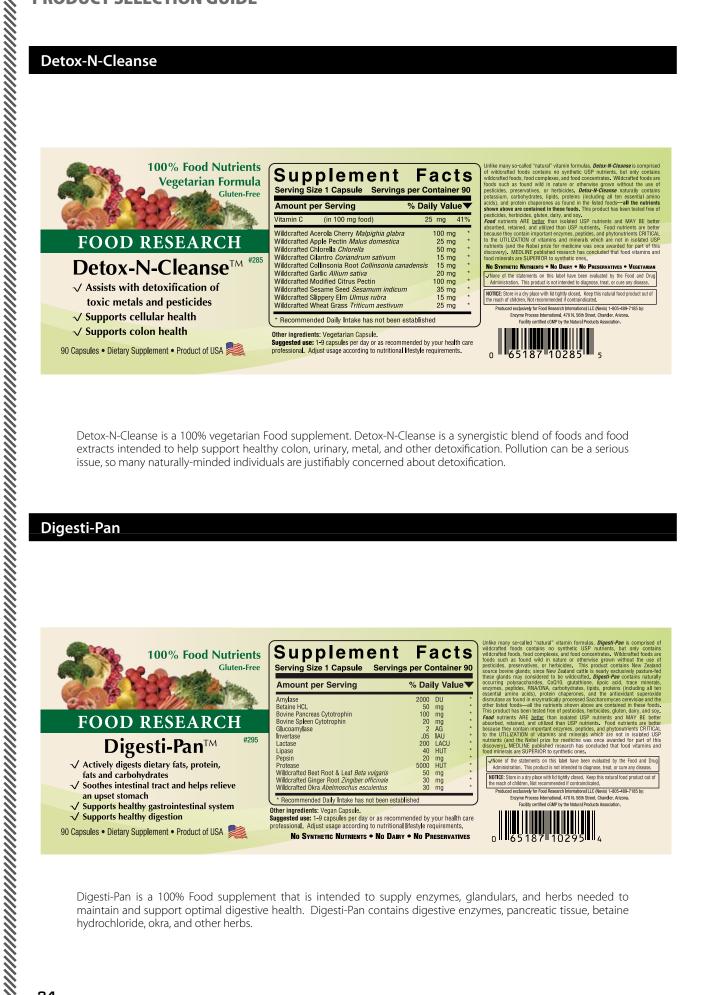
Co-Q10 Cardio is a 100% vegetarian Food supplement that is intended to supply nutrients needed to maintain and support optimal cardio-muscle health. Co-Q10 Cardio supplies plant-source co-enzyme Q10, a nutrient that is important for healthy cardiovascular system function, along with other herbs.

D Complex



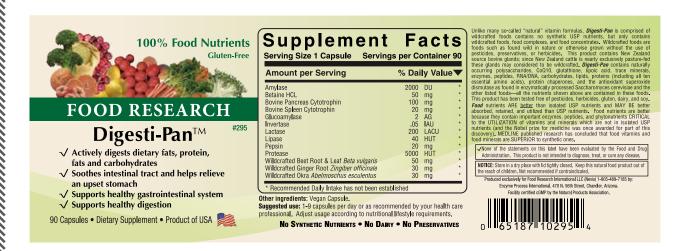
D Complex is a 100% vegetarian Food supplement that is intended to supply 100% Food vitamin D. Vitamin D helps with the absorption of food calcium and even has hormone-like functions within the human body. Vitamin D helps maintain serum calcium and phosphorus concentrations in a range that supports cellular processes, neurological function, and bone ossification. Studies have shown that FOOD vitamin D is at least 10 times as effective to prevent rickets than a USP form.

Detox-N-Cleanse



Detox-N-Cleanse is a 100% vegetarian Food supplement. Detox-N-Cleanse is a synergistic blend of foods and food extracts intended to help support healthy colon, urinary, metal, and other detoxification. Pollution can be a serious issue, so many naturally-minded individuals are justifiably concerned about detoxification.

Digesti-Pan



Digesti-Pan is a 100% Food supplement that is intended to supply enzymes, glandulars, and herbs needed to maintain and support optimal digestive health. Digesti-Pan contains digestive enzymes, pancreatic tissue, betaine hydrochloride, okra, and other herbs.

GB Support



GB Support is a 100% Food supplement that is intended to supply nutrients, glandulars, and herbs needed to maintain and support optimal gall bladder and digestive health. GB Support is intended to support the liver and digestive system's abilities to cleanse themselves and to metabolize fats. GB Support provides bile that will support the healthy metabolism and absorption of dietary fat when the gall bladder has been surgically removed. Collinsonia root has long been used as a tonic herb to support the digestive system.

Gluco-Sugar-Balance



Gluco-Sugar-Balance is a 100% vegetarian Food intended to help support a healthy balance of glucose in the body. It contains minerals, such as chromium GTF and vanadium, as well as herbs to nutritionally support the body's blood sugar systems.

Green Vegetable Alkalizer



Green Vegetable Alkalizer is a 100% vegetarian Food supplement that is intended to supply 100% Food green alkalizing plants. Chlorophyll naturally contains vitamin K. Green plants naturally contain chlorophyll, potassium, phosphorus, and other nutrients. Green vegetables are considered to be a natural cleanser for the digestive system and naturally contain nutrients that protect against free radicals.

Hematic Formula



Hematic Formula is a 100% vegetarian Food supplement that is intended to supply nutrients needed to maintain and support optimal blood health. Iron is an important nutrient essential for the synthesis of hemoglobin and is part of some of the enzymes needed for cell respiration. B vitamins also support hemoglobin production. Vitamin C has been shown to enhance the absorption of iron. Hematic Formula is not constipating like iron-salt supplements can be.

Herbal Antioxidants



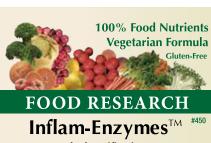
Herbal Antioxidants is a 100% vegetarian Food supplement that is intended to supply real antioxidant nutrients needed to maintain and support optimal health and protection from free radicals. Each of the antioxidant nutrients are 100% whole food and synergistically protect against a wide range of free radicals. Antioxidants are believed to help address the effects of aging, support healthy brain tissue, maintain capillary integrity, restore collagen strength, support healthy skin, and maintain a healthy cardiovascular system.

High Stress Adrenal



High Stress Adrenal is a 100% Food supplement that is intended to supply nutrients, glandulars, and herbs needed to maintain and support optimal adrenal health. The adrenal glands play a role in energy, stress, mood, immune support, and pain management. High Stress Adrenal contains many of the substances produced by, or naturally in, those glands including peptides, hormone precursors, and enzymes. Additionally, it includes I-tyrosine, food B vitamins, food vitamin C, and herbs to support healthy adrenal function.

Inflam-Enzymes



√ Muscle detoxification

√ Improves flexibility

√ Relieves discomfort √ Joint detoxification

90 Tablets • Dietary Supplement • Product of USA



Other ingredients: Fatty Acid from Palm Kernel, Vegetarian Coating.

Suggested use: 1-6 tablets per day or as recommended by your health care professional. Adjust usage according to nutritional lifestyle requirements.

√None of the statements on this label have been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, or cure any disease

Unlike many so-called "natural" vitamini formulas. Intilan-Eugmer¹⁰⁴ is comprised of wildcrafted foods contains no synthetic USP nutrients. But only contains of wildcrafted foods contains no synthetic USP nutrients. But only contains of containing the contain

No Synthetic Nutrients • No Dairy • No Preservatives • Vegetarian

NOTICE: Store in a dry place with lid tightly closed. Keep this natural food product out of the reach of children. Not recommended if contraindicated.



Inflam-Enzymes is a 100% vegetarian Food supplement that is intended to supply nutrients, enzymes, glandulars, and herbs needed to maintain and support optimal ligament and tendon health. Manganese is essential to the synthesis of connective tissue and is involved in the health and maintenance of ligaments and tendons.

Inositol Complex



Inositol Complex is a 100% vegetarian Food supplement that is intended to supply real food inositol. Inositol was once called vitamin B-8 and is a lipotrophic factor. Inositol supports emotional well being, eases stress, and promotes a positive mood. Inositol metabolism is sometimes affected by diabetes, renal disease, respiratory distress syndrome, multiple sclerosis, and hypercholesterolemia. Inositol has been used as nutritional support for people with brain, kidney, bone marrow, skin, hair, mood, muscular control, and blood cholesterol concerns. Inositol is involved with the formation of phospholipids as well as cholesterol metabolism.

Intracellular Cough



Intracellular Cough is a 100% Food supplement that is intended to supply nutrients, glandulars, and herbs needed to maintain and support optimal immune system health. This is a pluriglandular formula that also includes immune system supporting herbs.

Le Feminine Advantage



Le Feminine Advantage is a 100% Food supplement that is intended to supply nutrients, glandulars, and herbs needed to maintain and support optimal female health.

Libida-Life



Libida-Life is a 100% vegetarian Food supplement that is intended to having anti-aging properties and support a healthy sexual response system. It contains minerals, herbs, and the amino acid I-arginine. Zinc, selenium, astragalus, l-arginine, maca, silymarin, and resveratrol are all believed to have antioxidant abilities.



Liva DeTox & Support is a 100% Food supplement that is intended to supply nutrients, glandulars, and herbs needed to maintain and support optimal liver health.

Magnesium Complex



Magnesium Complex is a 100% vegetarian Food supplement that is intended to supply 100% Food magnesium. Magnesium is involved in 300 enzymatic steps in which components of food are metabolized and new products are formed. Clinical deficiency of magnesium can result in "depressed tendon reflexes, muscle fasciculations, tremor, muscle spasm, personality changes, anorexia, nausea, and vomiting". Magnesium deficiency reportedly produces hypercholesterolemia, hypertriglyceridemia, and dyslipoproteinemia by increasing VLDL and low density lipoprotein, and decreasing high density lipoprotein cholesterol. Studies have shown that FOOD magnesium is up to 2.20 times better absorbed and better retained than typical USP rock mineral salts.

Metabolic Thyro



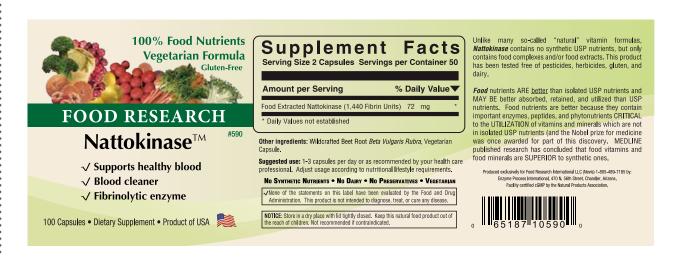
Metabolic Thyro is a 100% Food supplement that is intended to supply nutrients, glandulars, and herbs needed to maintain and support optimal thyroid health. It contains both naturally-iodine containing kelp, plant source I-tyrosine, bovine glandulars, and herbs to support an optimally functioning thyroid.

Migratrol



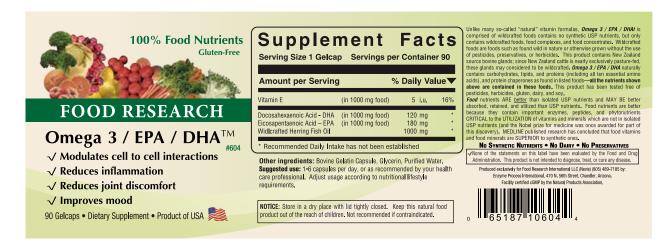
Migratol is a 100% Food supplement that is intended to supply nutrients, glandulars, and herbs needed to maintain and support optimal thyroid health. A mild product that often is used by older people and some with headaches..

Nattokinase



Nattokinase is a 100% vegetarian Food supplement that is intended to supply nutrients needed to provide high quality vegan nattokinase. Nattokinase is considered to be a fibrinolytic enzyme.

Omega 3/EPA/DHA



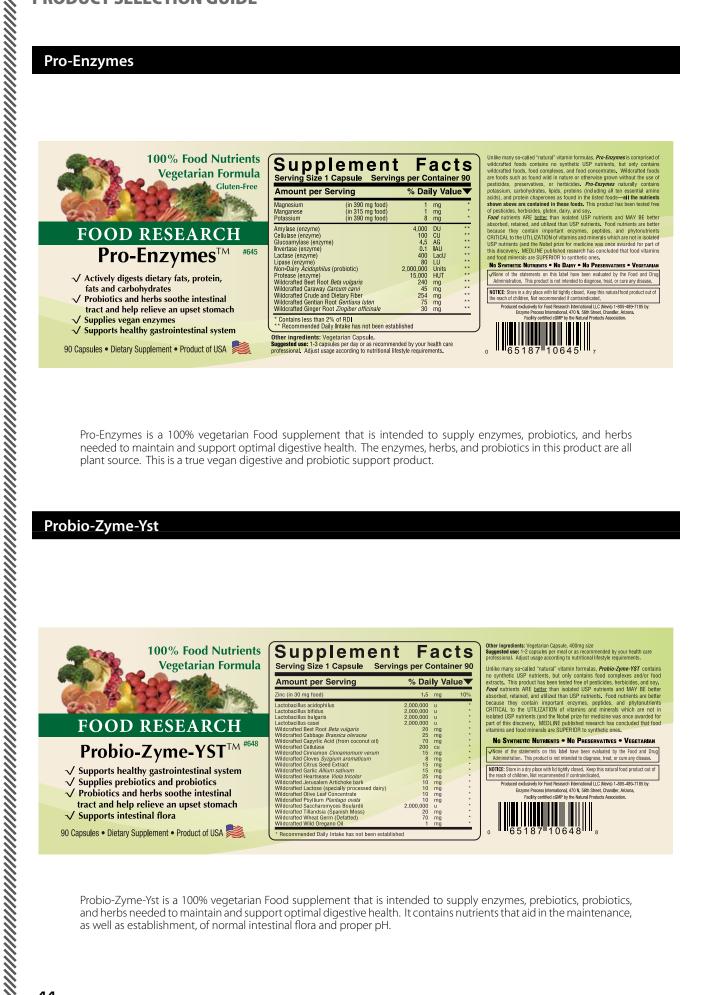
Omega 3/EPA/DHA is a 100% Food supplement that is intended to supply nutrients needed to provide high quality herring source essential fatty acids like omega 3 as well as EPA, DHA, and support factors. In addition to their structural roles, essential fatty acids modulate cell to cell interactions. Western diets are notoriously low in life-sustaining omega-3 essential fatty acids. This product is molecularly distilled for purity and to insure it meets quality standards..

Para-Dysbio-Zyme



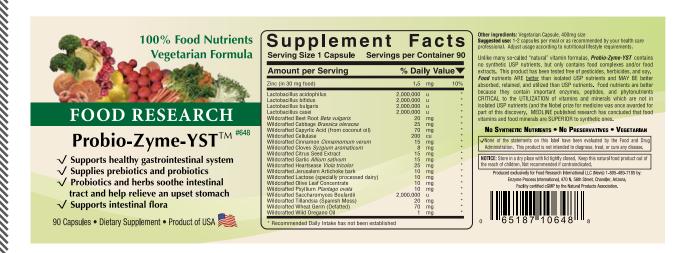
Para-Dysbio-Zyme is a 100% vegetarian Food supplement that is intended to supply enzymes and herbs needed to maintain and support optimal digestive health. It provides herbs and various proteolytic enzymes to support the healthy functioning of the gastrointestinal system.

Pro-Enzymes



Pro-Enzymes is a 100% vegetarian Food supplement that is intended to supply enzymes, probiotics, and herbs needed to maintain and support optimal digestive health. The enzymes, herbs, and probiotics in this product are all plant source. This is a true vegan digestive and probiotic support product.

Probio-Zyme-Yst



Probio-Zyme-Yst is a 100% vegetarian Food supplement that is intended to supply enzymes, prebiotics, probiotics, and herbs needed to maintain and support optimal digestive health. It contains nutrients that aid in the maintenance, as well as establishment, of normal intestinal flora and proper pH.

Prosta-Power



Other ingredients: Rice Bran, Vegetarian Capsule
Suggested use: 1-6 capsules per day or as recommended by your health care professional. Adjust
usage according to nutritional lifestyle requirements.

Unified many so-called "natural" vitamin formulas, "Prostar-Power is comprised or widecrated foots, contains no synthetic LPS nutrients, but only contains widecrated foots, with a containing the containing of the containing the con

0 65 18 7 10 65 5

Prosta-Power is a 100% Food supplement that is intended to supply nutrients, glandulars, and herbs needed to maintain and support optimal prostate and male health. The prostate secrets seminal fluid that helps enhance the fertility and motility of sperm. Prostate tissue helps maintain the prostate gland in a good state of repair to support prostate health. Saw palmetto helps support prostate health.

Restful Mind Support

90 Capsules • Dietary Supplement • Product of USA



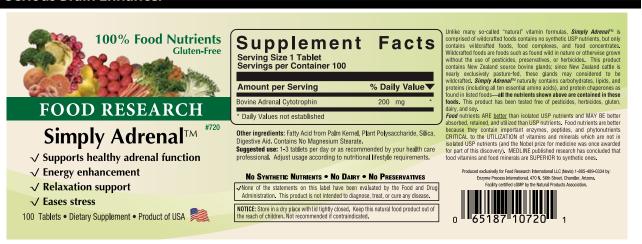
Restful Mind Support is a 100% Food supplement that is intended to supply nutrients, glandulars, and herbs needed to maintain and support optimal feelings of well being and normal sleep. The pineal gland helps regulate circadian rhythm.

Selenium E



Selenium E is a 100% vegetarian Food supplement that is intended to supply 100% Food vitamin E and selenium. Vitamin E deficiency results in progressive peripheral neuropathy and diminished sensory abilities. Real food vitamin E has antioxidant abilities in humans, whereas isolated forms (as are found in many other supplements) have little or no proven antioxidant abilities. Selenium often works with vitamin E in the body. Selenium also seems to support thyroid hormone production, have antioxidant effects, exists in parts of many enzymes, and supports cardiovascular health. Studies have shown that FOOD selenium has up to 17.60 times the antioxidant effect of a USP form of selenium and FOOD vitamin E is up to 17.02 times better retained in the body than a USP form.

Serious Brain Enhancer



Serious Brain Enhancer is a 100% Food supplement that is intended to supply nutrients, glandulars, and herbs needed for optimal brain health. The brain is the master organ of the body and directly or indirectly controls nearly all processes in the body including movement, intellect, memory, and mood. Bovine brain tissue naturally contains substances such as phosphatidylserine. Serious Brain Enhancer also contains pituitary, medulla, and other bovine tissues, along with the antioxidants selenium and vitamin E. Serious Brain Enhancer also contains ribonucleic acid.

Simply Adrenal



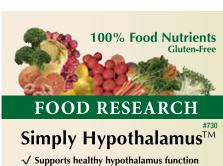
Simply Adrenal is a 100% Food supplement that is intended to supply nutrients needed to maintain and support optimal adrenal health. The adrenal glands play a role in energy, stress, mood, immune support, and pain management. Simply Adrenal contains many of the substances produced by, or naturally in, those glands including peptides, hormone precursors, and enzymes.

Simply Cardio



Simply Cardio is a 100% Food supplement that is intended to supply nutrients needed to maintain and support optimal heart muscle health. The heart pumps blood containing oxygen and other nutrients throughout the body. Bovine heart tissue naturally contains vital heart nutrients like co-enzyme Q10.

Simply Hypothalamus



- √ Calming
- √ Supports the master endocrine gland
- √ Promotes positive mood
- 90 Tablets Dietary Supplement Product of USA



Amount per Serving % Daily Value▼

Bovine Hypothalamus Cytotrophin Daily Values not established

Other ingredients: Fatty Acid from Palm Kernel, Plant Polysaccharide, Silica,

145 mg

Digestive Aid. Contains No Magnesium Stearate.

Suggested use: 1-3 tablets per day or as recommended by your health care professional. Adjust usage according to nutritional lifestyle requirements.

No Synthetic Nutrients . No Dairy . No Preservatives

√None of the statements on this label have been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, or cure any disease.

NOTICE: Store in a dry place with lid tightly closed. Keep this natural food product out of the reach of children. Not recommended if contraindicated.

Unlike many so-called "natural" vitamin formulas, Simply Hypothalamus" is comprised of wildcrafted foods contains no synthetic USP nutrients, but only contains wildcrafted foods, food complexes, and food concentrates, Wildcrafted foods are foods such as found wild in nature or otherwise grown without the use of pesticides, preservatives, or herbicides. This product contains New Zealand ocardle is nearly exclusively pasture-led, these glands may considered to be wildcrafted. Simply Hypothalamses* naturally contains carbohydrates, ligids, and proteins (including all ten essential amino acids), and protein chaperones as found in listed foods—all the nutrients shown above are contained in these foods. This product has been tested free of pesticides, herbicides, gluter, dairy, and soy.

herbicides, gluten, dairy, and soy.

Food nutrients ARE better than isolated USP nutrients and MAY BE better absorbed, retained, and utilized than USP nutrients. Food nutrients are better because they contain important enzymes, peptides, and phytonutrients CRITICAL to the UTIL LEATON of vitamins and minerals which are not in isolated USP nutrients (and the Nobel prize for medicine was once awarded for part of this discovery). MEDLINE published research has concluded that tool vitamins and tood minerals are SUPERIOR to



Simply Hypothalamus is a 100% Food supplement that is intended to supply nutrients needed to maintain and support optimal hypothalamus health. The hypothalamus is the body's master endocrine gland. The hypothalamus directly or indirectly controls nearly all the hormonal processes in the body. The hypothalamus is responsible for the integration of many basic behavioral patterns involving neural and endocrine function. Its leasing hormones control the secretions of the anterior pituitary. The hypothalamus also synthesizes the hormones oxytocin which is involved in milk secretion and uterine motility and ADH (antidiuretic hormone) even though they are actually released by the posterior pituitary. It also is involved with temperature regulation, testicular function, stress response, glucose regulation, and cardiovascular response to exercise. In menstruating women it produces chemicals known as releasing factors. The hypothalamus can be disturbed by emotional factors, drug abuse, extreme weight changes, severe illness, meningitis, or brain tumors. The hypothaamus can produce feelings of tranquility.

Simply Liver



- √ Supports acid-base balance
- √ Supports lung health

100 Tablets • Dietary Supplement • Product of USA



Other ingredients: Fatty Acid from Palm Kernel, Plant Polysaccharide, Silica, Digestive Aid. Contains No Magnesium Stearate. Suggested use: 1-3 tablets per day or as recommended by your health care professional. Adjust usage according to nutritional lifestyle requirements.

No Synthetic Nutrients . No Dairy . No Preservatives

None of the statements on this label have been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, or cure any disea

NOTICE: Store in a dry place with lid tightly closed. Keep this natural food product out of the reach of children. Not recommended if contraindicated.

Unlike many se-called "natural" vitamin formulas, Simply Lung's is comprised of wildcrafted foods contains no synthetic USP nutrients, but only contains wildcrafted foods, food complexes, and food concentrates. Wildcrafted foods are foods such as found wild in nature or otherwise grown without the use of pesticides, preservatives, or herbicides. This product contains New Zealand source bowine glands; since New Zealand cattle is nearly exclusively pasture-fed, these glands may considered to be wildcrafted. Simply Lung'in sutally contains carbolydrates, lipids, and proteins (including all ten essential amino acids) and protein chaperones are found in listed foods—all the nutrients shown above are contained in these foods. This product has been tested free of pesticides, herbicides, gulten, dairy, and soy.

*Food nutrients ARE **Detter** than isolated USP nutrients** Food nutrients are better beause they contain important enzymes, peptides, and phytomutrients CRITICAL to the UTIL/2ATON of Vitamins and minerals witch are not in isolated USP nutrients (and the Nobel prize for medicine

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Enzyme Process International, 470 N. 56th Street, Chandler, Arizona,
Facility certified cGMP by the Natural Products Association.



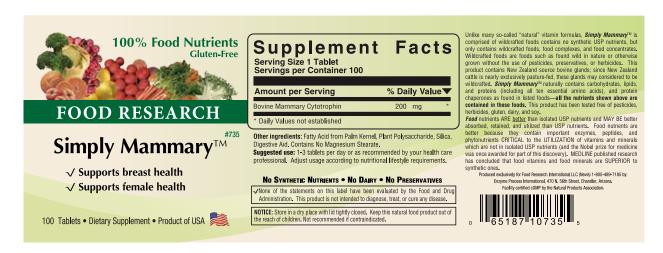
Simply Liver is a 100% Food supplement that is intended to supply nutrients needed to maintain and support optimal liver health. The basic functions of the liver can be divided into (1) its vascular functions for storage and filtration of the blood, (2), its metabolic functions concerned with the majority of the metabolic systems of the body, (3) its secretory and excretory functions. About 1100 milliliters of blood flows from the portal vein and into the liver sinusoids each minute, and about an additional 350 milliliters flows into the sinusoids from the hepatic artery. The liver thus partially detoxifies the equivalent of all the blood in the body several times per hour. The liver contains Kupffer cells, which are large macrophages that can efficiently cleanse the blood of various bacteria. The liver can expand and can regenerate its own tissue. The liver is the chemical factory of the body and is also involved in blood sugar regulation.

Simply Lung



Simply Lung is a 100% Food supplement that is intended to supply nutrients needed to maintain and support optimal lung health. The lungs are the primary organs of respiration and provide oxygen to the blood while also expelling excessive amounts of carbon dioxide. Bovine lung tissue helps maintain the lungs in a good state of repair to support healthy lung function.

Simply Mammary



Simply Mammary is a 100% Food supplement that is intended to supply nutrients needed to maintain and support optimal breast health. It has been reported that, in theory, the mammary glands can stimulate the ovaries, the hypothalamus, and adrenal glands.

Simply Orchic



- √ Supports sperm health
- √ Promotes positive mood
- √ Eases stress and irritability

100 Tablets • Dietary Supplement • Product of USA

Supplement Facts Serving Size 1 Tablet Servings per Container 100

Amount per Serving % Daily Value▼

Bovine Orchic Cytotrophin

* Daily Values not established

Other ingredients: Fatty Acid from Palm Kernel, Plant Polysaccharide, Silica,

200 mg

Digestive Aid, Contains No Magnesium Stearate.

Suggested use: 1-9 tablets per day or as recommended by your health care professional. Adjust usage according to nutritional lifestyle requirements.

No Synthetic Nutrients • No Dairy • No Preservatives

✓None of the statements on this label have been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, or cure any disease.

NOTICE: Store in a dry place with lid tightly closed. Keep this natural food product out of the reach of children. Not recommended if contraindicated.

Unlike many so-called "natural" vitamin formulas. Simply OrchieTM is comprised of wildcrafted foods contains no synthetic USP nutrients, but only contains wildcrafted foods, food complexes, and food concentrates, Wildcrafted foods are foods such as found wild in nature or otherise grown without the use of pestioides, preservatives, or herbioides. This product contains New Zealand source bovine glands; since New Zealand cattle is nearly exclusively pasture-led, these glands may considered to be wildcrafted. Simply Orchie* natural contains carbiohydrates, lipids, and proteins (Including all the resential amino acids), and protein chaperones as found in listed foods—all the nutrients shown above are contained in these foods. This product has been tested free of pesticides, herbicides, gluten, dairy, and say.
Food nutrients ARE better than isolated USP nutrients, Food nutrients and phytonutrients CRITICAL to the UTILCZATION of vitamins and minerals which are not in isolated USP nutrients (and the Nobel prize for medicine was once awarded for part of this discovery, MEDLINE published research has concluded that food vitamins and food minerals are SUPERIOR to synthetic ones.



Simply Orchic is a 100% Food supplement that is intended to supply nutrients needed to maintain and support optimal testicle health. Orchic is another name for testicle, a male reproductive gland that produces sperm. Simply Orchic contains many of the substances produced by, or naturally in those glands including peptides, hormone precursors, and enzymes. Some believe that supplementation with such glands can have a calming and balancing effect on the nervous system.

Simply Ovary



FOOD RESEARCH

Simply Ovary™

√ Supports female reproductive health

- √ Supports proper female functions
- √ Promotes positive mood

100 Tablets • Dietary Supplement • Product of USA

Supplement Facts

Serving Size 1 Tablet Servings per Container 100

Amount per Serving % Daily Value▼ 200 mg

Bovine Ovary Cytotrophin

* Daily Values not established

Other ingredients: Fatty Acid from Palm Kernel, Plant Polysaccharide, Silica, Digestive Aid. Contains No Magnesium Stearate.

Suggested use: 1-3 tablets per day or as recommended by your health care professional. Adjust usage according to nutritional lifestyle requirements.

No Synthetic Nutrients • No Dairy • No Preservatives

None of the statements on this label have been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, or cure any disease.

NOTICE: Store in a dry place with lid tightly closed. Keep this natural food product out of the reach of children. Not recommended if contraindicated.

Unlike many so-called "natural" vitamin formulas, Simply Ovary** is comprised of wildcrafted foods contains no synthetic USP nutrients, but only contains wildcrafted foods, food complexes, and food concentrates, Wildcrafted foods are foods such as found wild in nature or otherwise grown without the use of pesticides, preservatives, or herbicides. This product contains New Zealand source bovine glands, since New Zealand cattle is nearly exclusively pasture-left, these glands may considered to be wildcrafted. Simply Ovary** naturally contains carbohydrates, lipids, and proteins (including allten essential amino acids), and protein chaperones as found in listed foods—all the nutrients shown above are contained in these foods. This product has been tested free of pestidides, herbicides, quiten, dairy, and soy.
Food nutrients ARE better than isolated USP nutrients and MAY BE better absorbed, retained, and utilized than USP nutrients. Food nutrients are better because they contain important enzymes, peptides, and phytroutrients CRITICAL to the UTILIZATION of vitamins and mineralism which are not in isolated USP nutrients (and the Nobel pize for melleralism was once awarded for part of this discovery). MEDLINE published research has concluded that food vitamins and food minerals are SUPERIOR to synthetic ones.

Produced exclusively for Food Research International LLC (Deviet) 1-305-487-18 by: Enzyme Prozes International LLC (Deviet) 1-305-487-18 by:



Simply Ovary is a 100% Food supplement that is intended to supply nutrients needed to maintain and support optimal ovary health. Ovaries are female reproductive glands that produce hormones and reproductive cells. Simply Ovary contains many of the substances produced by, or naturally in, those glands including peptides, hormone precursors, and enzymes.

Simply Pancreas



- √ Emulsifies fat
- √ Assists in digestion of carbohydrates
- √ Supports healthy gastrointestinal system
- 100 Tablets Dietary Supplement Product of USA

Supplement Facts

Serving Size 1 Tablet Servings per Container 100

Amount per Serving

Bovine Pancreas Cytotrophin

200 mg

% Daily Value

Daily Values not established

Other ingredients: Fatty Acid from Palm Kernel, Plant Polysaccharide, Silica,

Digestive Aid, Contains No Magnesium Stearate.

Suggested use: 1-9 tablets per day or as recommended by your health care professional. Adjust usage according to nutritional lifestyle requirements.

No Synthetic Nutrients • No Dairy • No Preservatives

✓None of the statements on this label have been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, or cure any disease.

NOTICE: Store in a dry place with lid tightly closed. Keep this natural food product out of the reach of children. Not recommended if contraindicated.

Unlike many so-called "natural" vitamin formulas, Simply Pancreas[™] is comprised of widerafted foods contains no synthetic USP nutrients, but only contains wildcrafted foods, food complexes, and food concentrates. Widerafted foods are foods such as found wild in nature or otherwise grown without the use of pesticides, preservatives, or herbicides. This product contains New Zealand source bowing ejands; since New Zealand cattle is nearly exclusively pasture-led, these glands may considered to be widerafted. Simply Pancreas[™] naturally contains carothydrates, lipids, and proteins (including all ten essential amino acids), and protein chaperones as foound in listed foods—all the nutrients shown above are contained in these foods. This product has been tested free of pesticides, herbicides, gluter, dairy, and soy.

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Simply Pancreas is a 100% Food supplement that is intended to supply nutrients needed to maintain and support optimal pancreas and digestive health. Simply Pancreas contains many of the substances produced by, or naturally in, the pancreas including peptides, hormone precursors, and enzymes. The pancreas is both an endocrine and exocrine gland. "Pancreatic secretion contains enzymes for digesting all three major types of food: proteins, carbohydrates, and fats...The more important proteolytic enzymes are trypsin, chymotrypsin, and carboxypolypeptidase...The pancreatic enzyme for carbohydrates is pancreatic amylase, which hydrolyzes starches, glycogen, and most other carbohydrates...The main enzymes for fat digestion are pancreatic lipase, which is capable of hydrolizing neutral fat into fatty acids and monoglycerides; cholesterol esterase, which causes hydrolysis of cholesterol esters; and phospholipase, which splits fatty acids from phospholipids." Bovine pancreas tissue helps maintain the pancreas in a good state of repair to support healthy pancreatic function.

Simply Spleen



FOOD RESEARCH

Simply Spleen™

- √ Supports a healthy spleen
- √ Supports healthy blood
- √ Supports healthy lymphatic system
- √ Enhances detoxification

100 Tablets • Dietary Supplement • Product of USA

Supplement **Facts** Serving Size 1 Tablet Servings per Container 100 Amount per Serving % Daily Value▼ Bovine Spleen Cytotrophin Daily Values not established

Other ingredients: Fatty Acid from Palm Kernel, Plant Polysaccharide, Silica, Digestive Aid. Contains No Magnesium Stearate.

Suggested use: 1-3 tablets per day or as recommended by your health care ssional. Adjust usage according to nutritional lifestyle requirements.

No Synthetic Nutrients • No Dairy • No Preservatives

✓None of the statements on this label have been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, or cure any disease.

NOTICE: Store in a dry place with lid tightly closed. Keep this natural food product out of the reach of children. Not recommended if contraindicated.

Unlike many so-called "natural" vitamin formulas, **Simply Spleen™** is comprised of wildcrafted foods contains no synthetic USP nutrients, but only contains wildcrafted foods, food complexes, and food concentrates. Wildcrafted foods are foods such as found wild in nature or otherwise grown without the use of pesticides, preservatives, or herbicides. This product contains New Zealand source bovine glands; since New Zealand cattle is nearly exclusively pasture-fed, these glands may considered to be wildcrafted. Simply Spleen™ naturally contains carbohydrates, lipids, and proteins (including all ten essential amino acids), and protei found in listed foods—all the nutrients shown above are contained in these foods. This product has been tested free of pesticides, herbicides, gluten,

dairy, and soy.

Food nutrients ARE better than isolated USP nutrients and MAY BE better absorbed, retained, and utilized than USP nutrients. Food nutrients are better because they contain important enzymes, peptides, and phytonutrients CRITICAL to the UTILIZATION of vitamins and minerals which are not in isolated USP nutrients (and the Nobel prize for medicine was once awarded for part of this discovery). MEDLINE published research has concluded that food vitamins and food minerals are SUPERIOR to synthetic ones.

ed exclusively for Food Research International LLC (Nevis) 1-805-489-7185 by: Enzyme Process International, 470 N. 56th Street, Chandler, Arizona. Facility certified cGMP by the Natural Products Association.



Simply Spleen is a 100% Food supplement that is intended to supply nutrients needed to maintain and support optimal spleen health. The spleen is considered to be the largest lymphatic organ in the body and the macrophages produced by the spleen remove pathogens such as old red blood cells and other waste from the blood. Simply Spleen contains many of the substances produced by, or naturally in, the spleen including peptides, peptideprecursors, and enzymes. Bovine spleen tissue helps maintain the spleen tissues in a good state of repair to support healthy spleen function.

Simply Thymus



FOOD RESEARCH

Simply Thymus™

- √ Enhanced immune health
- √ Supports skin health
- √ Supports a healthy thymus gland

100 Tablets • Dietary Supplement • Product of USA

Supplement Serving Size 1 Tablet Servings per Container 100 **Facts**

% Daily Value▼ Amount per Serving Bovine Thymus Cytotrophin 200 mg

* Daily Values not established

Other ingredients: Fatty Acid from Palm Kernel, Plant Polysaccharide, Silica, Digestive Aid. Contains No Magnesium Stearate. Suggested use: 1-3 tablets per day or as recommended by your health care

professional. Adjust usage according to nutritional lifestyle requirements. No Synthetic Nutrients . No Dairy . No Preservatives

√None of the statements on this label have been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, or cure any disease.

NOTICE: Store in a dry place with lid tightly closed. Keep this natural food product out of the reach of children. Not recommended if contraindicated.

Unlike many so-called "natural" vitamin formulas. Simply Thymus** is comprised of wildcrafted foods contains no synthetic USP nutrients, but only contains wildcrafted foods food complexes, and food concentrates, Wildcrafted foods are foods such as found with in nature or otherse grown without the use of pesticides, preservatives, or herbicides. This product contains New Zealand castle is nearly exclusively pasture-fed, these glands may considered to be wildcrafted. Simply Trymus** inaturally contains canboyletates, lipids and proteins (including all ten essential amino acids), and protein chaperones and proteins (including all ten essential amino acids), and protein chaperones and proteins (including all ten essential amino acids), and proteins (including all ten essential amino acids), and proteins (haber of the proteins). Food nutrients and MAY 8E better loads. This product has been tested free of pesticides, herbicides, glutten, dairy, and soy.

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Simply Thymus is a 100% Food supplement that is intended to supply nutrients needed to maintain and support optimal thymus and immune system health. Simply Thymus contains many of the substances produced by, or naturally in the thymus including peptides, hormone precursors, and enzymes. Bovine thymus tissue helps maintain the thymus gland in a good state of repair to support healthy thymus function.

Simply Thyroid



FOOD RESEARCH

Simply Thyroid™

- √ Supports a healthy thyroid
- √ Enhances energy
- √ Supports proper metabolism
- √ Mood support

100 Tablets • Dietary Supplement • Product of USA

Supplement **Facts** Serving Size 1 Tablet Servings per Container 100 Amount per Serving % Daily Value▼ Bovine Thyroid Cytotrophin 200 mg Daily Values not established

Other ingredients: Fatty Acid from Palm Kernel, Plant Polysaccharide, Silica, Digestive Aid. Contains No Magnesium Stearate. Suggested use: 1-3 tablets per day or as recommended by your health care

professional. Adjust usage according to nutritional lifestyle requirements.

No Synthetic Nutrients • No Dairy • No Preservatives

√None of the statements on this label have been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, or cure any disease.

NOTICE: Store in a dry place with lid tightly closed. Keep this natural food product out of the reach of children. Not recommended if contraindicated.

Unlike many so-called "natural" vitamin formulas, Simply Thyroid** is comprised of wildcrafted foods contains no synthetic USP nutrients, but only contains wildcrafted foods, food complexes, and food concentrates. Wildcrafted foods are food such as found wild in nature or otherwise grown without the use of pesticides, preservatives, or herbicides. This product contains New Zealand source bowine glands, since the Zealand source bowine glands, since the wildcrafted. Simply Thyroid** naturally contains are ortically self-gland proteins (Including all the resembla amino acids), and protein chaperones as found in listed foods—all the nutrients shown above are contained in these foods. This product has been tested free of pesticides, herbicides, gluten, dairy, and soy. Food nutrients ARE better than isolated USP nutrients (and the Nobel prize for medices, and phytonutrients CRITICAL to the UTILEZATION of vitamins and minerals which are not in isolated USP nutrients (and the Nobel prize for medices which are not in isolated USP nutrients (and the Nobel prize for medices which are not in isolated USP nutrients (and the Nobel prize for medices which are not in isolated USP nutrients (and the Nobel prize for medices which are not in isolated USP nutrients (and the Nobel prize for medices which are not in isolated USP nutrients (and the Nobel prize for medices are the school of the prize of the prize for medices are the school of the prize o

Enzyme Process International, 470 N. 56th Street, Chandler, Arizona. Facility certified cGMP by the Natural Products Association.



Simply Thyroid is a 100% Food supplement that is intended to supply nutrients needed to maintain and support optimal thyroid health. Simply Thyroid contains many of the substances produced by, or naturally in the thyroid including peptides, hormone precursors, and enzymes. Bovine thyroid tissue helps maintain thyroid tissues in a good state of repair to support healthy thyroid function.

Simply Uterus



Simply Uterus is a 100% Food supplement that is intended to supply nutrients needed to maintain and support optimal uterus health. The uterus is a female reproductive organ that holds and nourishes the human embryo from the time that the fertilized egg is implanted until the time of birth. Bovine uterus tissue helps maintain uterine tissues in a good state of repair to support healthy uterine function.

Thymo-Immune



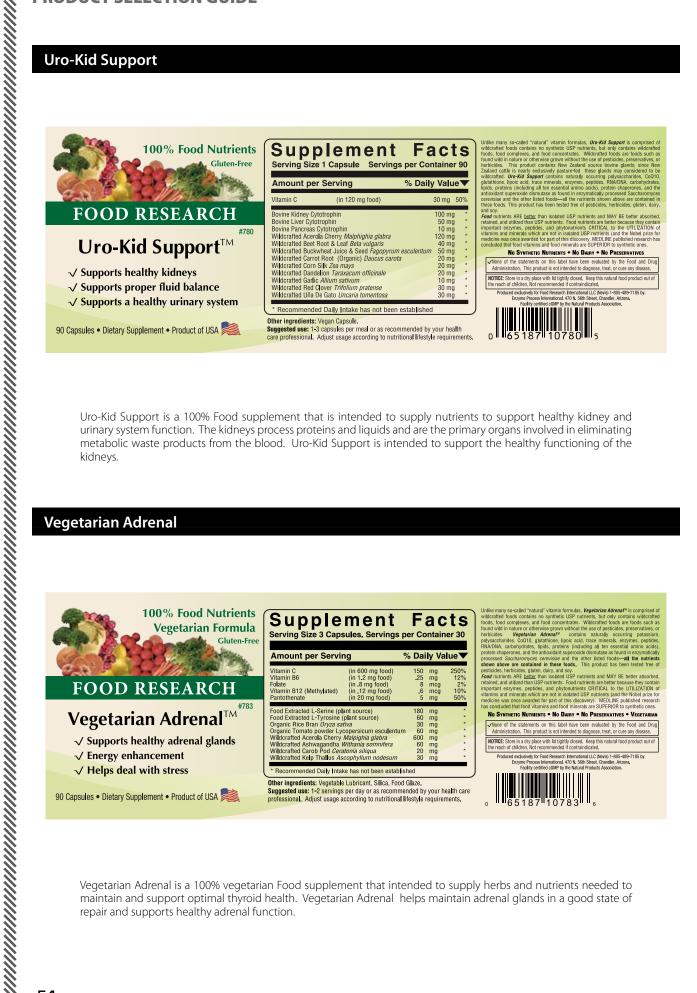
Thymo-Immune is a 100% Food supplement that is intended to supply nutrients needed to maintain and support optimal thymus and immune system health. Bovine thymus tissue helps maintain the thymus gland in a good state of repair to support healthy thymus function. Echinacea primarily supports the non-specific cellular immune system by helping certain types of white blood cells during phagocytosis. Thymo-Immune contains Acerola cherry which is one of the most vitamin C dense foods. Brazilian peppertree bark, carrot root, garlic, and golden seal provide support for a healthy immune system.

Uro-Kid Support



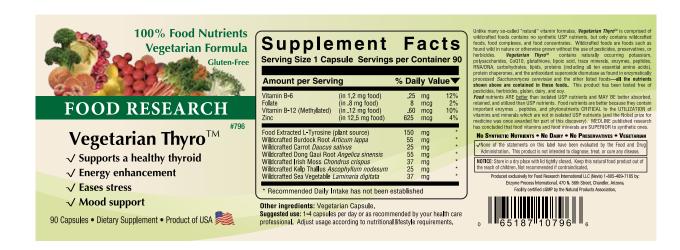
Uro-Kid Support is a 100% Food supplement that is intended to supply nutrients to support healthy kidney and urinary system function. The kidneys process proteins and liquids and are the primary organs involved in eliminating metabolic waste products from the blood. Uro-Kid Support is intended to support the healthy functioning of the kidneys.

Vegetarian Adrenal



Vegetarian Adrenal is a 100% vegetarian Food supplement that intended to supply herbs and nutrients needed to maintain and support optimal thyroid health. Vegetarian Adrenal helps maintain adrenal glands in a good state of repair and supports healthy adrenal function.

Vegetarian Thyro



Vegetarian Thyro is a 100% vegetarian Food supplement that intended to supply herbs and nutrients needed to maintain and support optimal thyroid health. Vegetarian Thyro contains nutrients such as I-tyrosine and iodine (naturally present in sea vegetables) which are the building blocks of the thyroid hormones. Vegetarian Thyro helps maintain thyroid tissues in a good state of repair and supports healthy thyroid function.

Vegetarian Tryptophan



Vegetarian Tryptophan is a 100% vegetarian Food supplement that supplies tryptophan. Tryptophan is an essential amino acid and is needed to make many of the protein structures in the body.

Vegetarian Tyrosine



Vegetarian TyrosineTM

- √ GMO-free
- √ Energy enhancement
- √ Eases stress
- ✓ Mood support ✓ Supports the thyroid and adrenal glands
- 90 Capsules Dietary Supplement Product of USA

Supplement **Facts**

Serving Size 1 Capsule Servings per Container 90

Amount per Serving

% Daily Value

Food Extracted L-Tyrosine (Vegan GMO-Free)
Wildcrated Princess Pea Psophocarpus tetragonolobus

* Recommended Daily Intake has not been established

Other ingredients: Vegetarian Capsule.

Suggested use: 1-6 capsules per day or as recommended by your health care professional. Adjust usage according to nutritional lifestyle requirements.

No Synthetic Nutrients • No Dairy • No Preservatives • Vegetarian

Unlike many so-called "natural" vitamin formulas, Vegetarian Tyrosine contains no synthetic USP nutrients, but only contains food complexes and/or food extracts. This product has been tested free of pesticides, herbicides, gluten, dairy, and soy.

Food nutrients ARE better than isolated USP nutrients and MAY BE better absorbed, retained, and utilized than USP nutrients. Food nutrients are better because they peptides, contain important enzymes, phytonutrients CRITICAL to the UTILIZATION of vitamins and minerals which are not in isolated USP nutrients (and the Nobel prize for medicine was once awarded for part of this discovery). published research has concluded that food vitamins and food minerals are SUPERIOR to synthetic ones.

None of the statements on this label have been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, or cure any disease.

NOTICE: Store in a dry place with lid tightly closed. Keep this natural food product out of the reach of children. Not recommended if contraindicated.

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Vegetarian Tyrosine is a 100% vegetarian Food supplement that is intended to supply nutrients needed to provide high quality vegan tyrosine and support factors. Tyrosine is an amino acid that some have trouble producing and is used by the thyroid and adrenal glands.

Vira-Bac-Yst



Vira-Bac-YST™

- √ Enhanced immune health
- √ Contains fiber
- √ Chlorophyll source

90 Capsules • Dietary Supplement • Product of USA

Facts Supplement Serving Size 1 Capsule Servings per Container 90

Amount per Serving

% Daily Value▼

Wildcrafted Beet Root Beta Vulgaris Rubra Wildcrafted Buckwheat Leaf & Juice Fagopyrum esculentum Wildcrafted Olive Leaf Concentrate Oleo europaea Wildcrafted Wild Oregano Leaf & Stem Origanum vulgare 75 ma

* Recommended Daily Intake has not been established

Other ingredients: Vegetarian Capsule

Suggested use: Suggested use: 1-9 capsules per day or as recommended by your health care professional. Adjust usage according to nutritional lifestyle requirements.

No Synthetic Nutrients • No Dairy • No Preservatives • Vegetarian

✓None of the statements on this label have been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, or cure any disease.

NOTICE: Store in a dry place with lid tightly closed. Keep this natural food product out of the reach of children. Not recommended if contraindicated.

Unlike many so-called "natural" vitamin formulas, Vira-Bae-YST is comprised of wildcrafted foods contains no synthetic USP nutrients, but only contains wildcrafted foods, food complexes, and food concentrates. Wildcrafted foods are foods such as found wild in nature or otherwise grown without the use of pesticides, preservatives, or herbicides yru-Bae-YST naturally contains potassium, carobhydrates, lipids, proteins (including all ten essential amino acids), and protein chaperones of cound in the licrof foods all. the subtracts phone above as as found in the listed foods—all the nutrients shown above are contained in these foods. This product has been tested free of pesticides, herbicides, gluten, dairy, and soy.

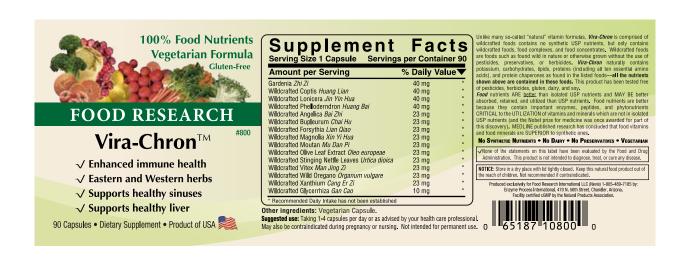
Food nutrients ARE better than isolated USP nutrients and MAY BE better absorbed, retained, and utilized than USP nutrients. Food nutrients are better because they contain important enzymes, peptides, and phytonutrients CRITICAL to the UTILIZATION of vitamins and minerals which are not in isolated USP nutrients (and the Nobel prize for medicine was once awarded for part of this discovery). MEDLINE published research has concluded that food vitamins and food minerals are SUBSPIDID to cutable cone. SUPERIOR to synthetic ones.

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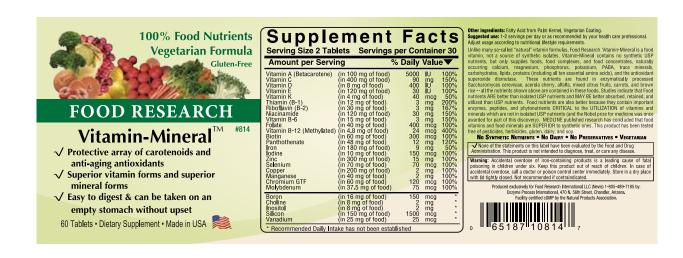
Vira-Bac-Yst is a 100% vegetarian Food supplement that is intended to support a health immune and digestive system. It contains herbs such as Wild Oregano (which is not the same, and should not be confused, with the spice called oregano).

Vira-Chron



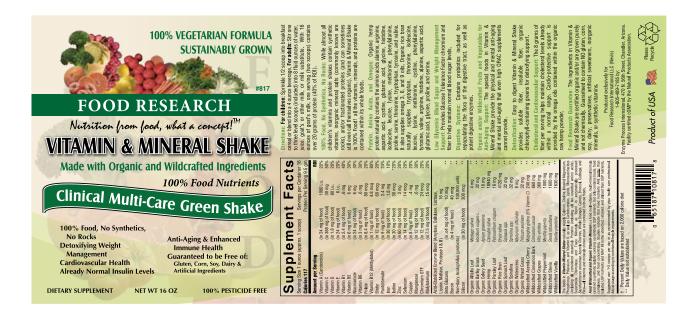
Vira-Chron is a 100% vegetarian Food supplement that is intended to supply nutrients needed to maintain and support optimal immune system health. It contains a variety of Western and Eastern (Chinese) herbs that have historically, as well as recently, been used to support the immune system. It supports a healthy liver and healthy sinuses. It is also taken by some to support digestive system health when imbalances there are encountered.

Vitamin-Mineral



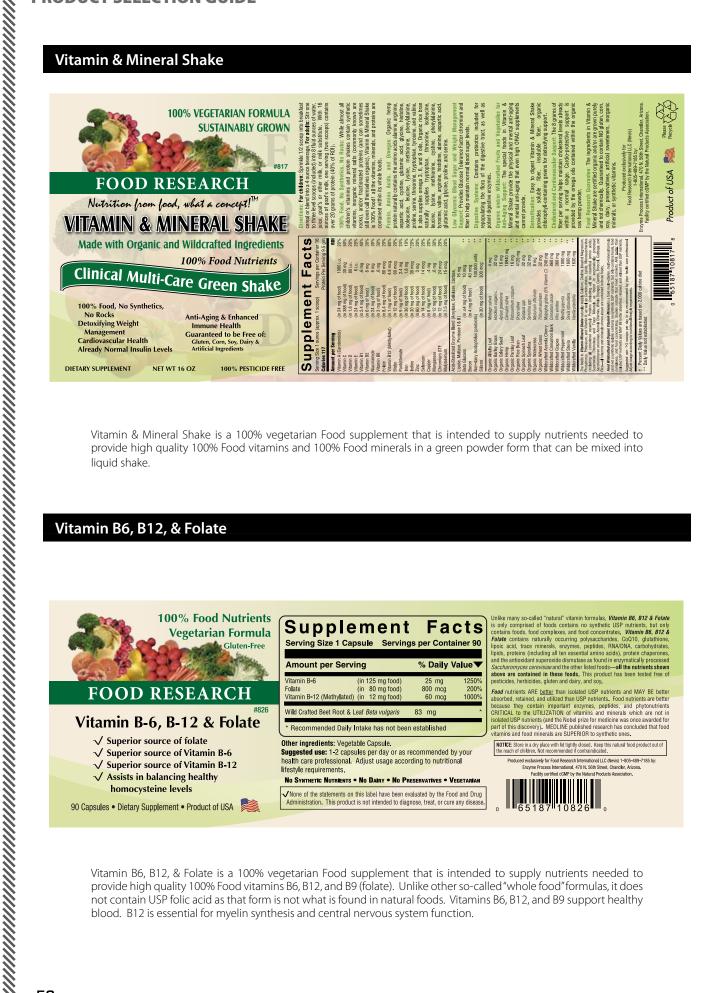
Vitamin-Mineral is a 100% vegetarian Food supplement that is the best multi-vitamin, multi-mineral product available anywhere. Unlike some other claimed "whole food" multi-formulas, it does not contain ANY isolate USP nutrients, plus it contains the RDI amount of the more costly food nutrients such as chromium GTF.

Vitamin & Mineral Shake



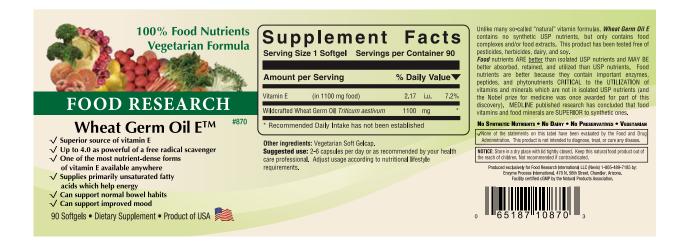
Vitamin & Mineral Shake is a 100% vegetarian Food supplement that is intended to supply nutrients needed to provide high quality 100% Food vitamins and 100% Food minerals in a green powder form that can be mixed into liquid shake.

Vitamin B6, B12, & Folate



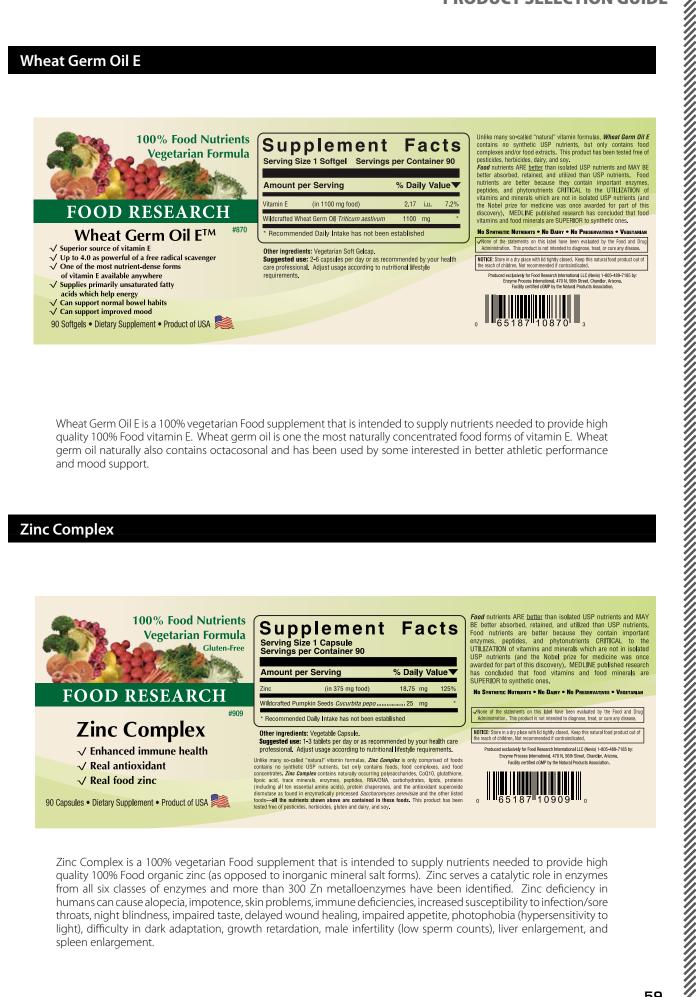
Vitamin B6, B12, & Folate is a 100% vegetarian Food supplement that is intended to supply nutrients needed to provide high quality 100% Food vitamins B6, B12, and B9 (folate). Unlike other so-called "whole food" formulas, it does not contain USP folic acid as that form is not what is found in natural foods. Vitamins B6, B12, and B9 support healthy blood. B12 is essential for myelin synthesis and central nervous system function.

Wheat Germ Oil E



Wheat Germ Oil E is a 100% vegetarian Food supplement that is intended to supply nutrients needed to provide high quality 100% Food vitamin E. Wheat germ oil is one the most naturally concentrated food forms of vitamin E. Wheat germ oil naturally also contains octacosonal and has been used by some interested in better athletic performance and mood support.

Zinc Complex



Zinc Complex is a 100% vegetarian Food supplement that is intended to supply nutrients needed to provide high quality 100% Food organic zinc (as opposed to inorganic mineral salt forms). Zinc serves a catalytic role in enzymes from all six classes of enzymes and more than 300 Zn metalloenzymes have been identified. Zinc deficiency in humans can cause alopecia, impotence, skin problems, immune deficiencies, increased susceptibility to infection/sore throats, night blindness, impaired taste, delayed wound healing, impaired appetite, photophobia (hypersensitivity to light), difficulty in dark adaptation, growth retardation, male infertility (low sperm counts), liver enlargement, and spleen enlargement.

Ingredient/Component Cross Reference

The ingredients and components in this list are often in multiple products. The products are simply listed in alphabetical order. Not all products are listed (mainly if the amount was quite low). A component is something that is naturally present in the food, but not necessarily added as a separate ingredient—nor is its presence necessarily tested for.

For example, while products with bovine tracheal cartilage naturally contain chondroitin sulfate and glucosamine sulfate, those items are not extracted out of it in our products.

A

Acerola

Advanced Joint Complex, Aller-Lung Support, Anxie-Tone, Arginase Bladder, Cardio-Power, CoQ10-Cardio, Complete Eye Health, Congalmmune, Detox-N-Cleanse, Inflam-Enzymes, Intracellular Cough, Serious Brain Enhancer, Thymo-Immune, Uro-Kid Support, Vegetarian Adrenal, Vitamin-Mineral, Vitamin-Mineral Shake

Adrenal, Bovine

High Stress Adrenal, Metabolic Thyro, Migratrol, Simply Adrenal (an alternative could be Vegetarian Adrenal)

African Pygeum

Prosta-Power

Alfalfa

Advanced Joint Complex, Anxie-Tone, D Complex, Green Vegetable Alkalizer, Metabolic Thyro, Vitamin-Mineral Shake

Algae, Brown

Vegetarian Thyro (as laminaria digitata)

Almonds

Para-Dysbio-Zyme

Aloe Vera

Advanced Joint Complex, Metabolic Thyro

Alpha-Linolenic Acid

Serious Brain Enhancer (in flax)

Alpha Lipoic Acid

Serious Brain Enhancer

Amygladin

Para-Dysbio-Zyme, Serious Brain Enhancer, Vira-Bac-Yst

Amylase

Digesti-Pan, Pro-Enzymes, Vitamin-Mineral Shake

Angelica

Vira-Chron

Aorta, Bovine

Cardio-Power, Intracellular Cough

Apple Pectin

Cholester-Right, Detox-N-Cleanse

Arginase

Arginase Bladder, Liva DeTox & Support, Simply Liver

Artemisia Annua

Para-Dysbio-Zyme

Astragalus

Libida-Life

B

Barley Grass

Green Vegetable Alkalizer, Vitamin-Mineral Shake

Beans, Winged

Vegetarian Tyrosine (as princess pea)

Beet Root

Arginase Bladder, Digesti-Pan, GB Support, Hematic Formula, Liva Detox & Support, Vira-Bac-Yst, Vitamin B6, B12, & Folate

Benfotiamine (in garlic)

Cardio-Power, Liva DeTox & Support, Para-Dysbio-Zyme, Thymo-Immune, Uro-Kid Support

Betacarotene

Complete Eye Health, Herbal Antioxidant, Vitamin-Mineral, Vitamin-Mineral Shake

Beta-Glucans

Cholester-Right

Betaine HCL

Digesti-Pan

Beta-Sitosterol

Prosta-Power (in saw palmetto)

Bilberry Berries

Complete Eye Health

Bile, Bovine

GB Support

Bioflayonoids

Advanced Joint Complex, Aller-Lung Support, Anxie-Tone, Arginase Bladder, B Stress Complex, C Complex, Cal-Mag Complex, Cardio-Power, Complete Eye Health, CoQ10-Cardio, Conga-Immune, DeTox-N-Cleanse, Hematic Formula, Herbal Antioxidant, High Stress Adrenal, Inflam-Enzymes, Intracellular Cough, Serious Brain Enhancer, Thymo-Immune, Vegetarian Adrenal, Vitamin-Mineral

Biotin, Food

Anxie-Tone, B Stress Complex, Vitamin-Mineral, Vitamin-Mineral Shake

Black Cohosh

Le Feminine Advantage

Black Walnut

Para-Dysbio-Zyme

Bone Marrow

Conga-Immune

Borage Seeds

Advanced Joint Complex, Migratrol

Boron, Food

Advanced Joint Complex, Cal-Mag Complex, Vitamin-Mineral, Vitamin-Mineral Shake

Brain, Bovine

Serious Brain Enhancer

Brazilian Peppertree Bark

Thymo-Immune

Broccoli

Complete Eye Health, Metabolic Thyro

Bromelain

Aller-Lung Support, Inflam-Enzymes, Intracellular Cough, Para-Dysbio-Zyme

Bromine, Food (in kelp)

Metabolic Thyro, Vegetarian Thyro

Buckwheat Grass

Arginase Bladder, Conga-Immune, Uro-Kid Support, Vira-Bac-Yst

Bupleurum

Vira-Chron

Burdock

Advanced Joint Complex, Metabolic Thyro, Para-Dysbio-Zyme, Vegetarian Thyro

C

Cabbage

Probio-Zyme-YST

Calcium, Food

Advanced Joint Complex, Cal-Mag Complex, Calcium Complex, Inflam-Enzymes,

Caprylic Acid

Probio-Zyme-YST

Caraway

Pro-Enzymes

Carob

Vegetarian Adrenal

Carrots

Arginase Bladder, Complete Eye Health, Conga-Immune, GB Support, Intracellular Cough, Para-Dysbio-Zyme, Thymo-Immune, Uro-Kid Support, Vegetarian Thyro, Vitamin-Mineral, Vitamin-Mineral Shake

Cartilage, Bovine Tracheal

Advanced Joint Complex, Complete Eye Health

Cayenne Fruit

Advanced Joint Complex

Cellulase

Para-Dysbio-Zyme, Pro-Enzymes, Probio-Zyme-YST, Vitamin-Mineral Shake

Celery

Green Vegetable Alkalizer, Vitamin-Mineral Shake

Chaste Tree Berries

Le Feminine Advantage

Chinese Thoroughwax

Complete Ear Health

Chlorella

Detox-N-Cleanse

Chlorophyll (in green plants)

Cal-Mag Complex, Detox-N-Cleanse, Green Vegetable Alkalizer, Vira-Bac-Yst, Vitamin-Mineral

Choline

Anxie-Tone, B Stress Complex, Choline Complex, High Stress Adrenal, Serious Brain Enhancer, Vitamin-Mineral

Chondroitin Sulfate (in trachea)

Advanced Joint Complex, Complete Eye Health, Serious Brain Enhancer

Chromium GTF, Food

Gluco-Sugar-Balance, Metabolic Thyro, Migratrol, Vitamin-Mineral, Vitamin-Mineral Shake

Cilantro

Detox-N-Cleanse

Cinnamon

Gluco-Sugar-Balance, Probio-Zyme-YST, Vitamin-Mineral Shake

Citrus Fruits

C Complex, Cal-Mag Complex, Cholester-Right, High Stress Adrenal, Vegetarian Adrenal, Vitamin-Mineral

Citrus Seed Extract

Para-Dysbio-Zyme, Probio-Zyme-YST

Clove

Para-Dysbio-Zyme, Probio-Zyme-YST

Co-Enzyme Q-10

Cardio-Power, Complete Ear Health CoQ10-Cardio, Simply Cardio

Cod Liver Oil

Complete Eye Health

Collagen

Advanced Joint Complex, Complete Eye Health, Serious Brain Enhancer

Collinsonia Root

Anxie-Tone, Detox-N-Cleanse, GB Support

Copper, Food

Vitamin-Mineral, Vitamin-Mineral Shake

Coptis

Vira-Chron

Corn Silk

Serious Brain Enhancer, Uro-Kid Support

D

Damiana

Prosta-Power

Dandelion

Uro-Kid Support

Deoxyribonucleic Acid

Serious Brain Enhancer

Devil's Claw

Advanced Joint Complex

DHEA (in bovine adrenals)

High Stress Adrenal, Metabolic Thyro, Migratrol, Simply Adrenal

Diindolylmethane (in broccoli)

Complete Eye Health, Metabolic Thyro

Dong Quai Root

Migratrol, Vegetarian Thyro

 \mathbf{E}

Ear, Goat Inner

Complete Ear Health

Echinacea

Conga-Immune, Thymo-Immune

Elderberry

Intracellular Cough

Eleuthero Root

Herbal Antioxidant, High Stress Adrenal, Serious Brain Enhancer, Thymo-Immune

Endothelium/Epithelium

Advanced Joint Complex, Serious Brain Enhancer

Enzymes, Digestive

Aller-Lung Support, Digesti-Pan, Inflam-Enzymes, Para-Dysbio-Zyme, Probio-Zyme-YST, Pro-Enzymes.

REFERENCE GUIDE

Essential Fatty Acids

Complete Eye Health, Migratrol, Omega 3/ EPA/DHA, Serious Brain Enhancer, Wheat Germ Oil E

Essential Monosaccharides; All

Metabolic Thyro

Eye, Goat

Complete Eye Health

Eyebright

Complete Eye Health

F

Fenugreek

Aller-Lung-Support, Gluco-Sugar-Balance

Feverfew Leaves

Migratrol

Fiber

Calcium Complex, Hematic Formula, Magnesium Complex, Vitamin B-6, B-12, & Folate, Vitamin-Mineral Shake

Figs

Para-Dysbio-Zyme

Fish Oil, Herring

Omega 3/EPA/DHA

Flavonoids

Advanced Joint Complex, Anxie-Tone, B Stress Complex, C Complex, Cal-Mag Complex, Cardio-Power, Complete Eye Health, Hematic Formula, Herbal Antioxidant, High Stress Adrenal, Serious Brain Enhancer, Thymo-Immune, Vitamin-Mineral

Flaxseeds

Le Feminine Advantage, Prosta-Power, Serious Brain Enhancer

Folate, Food (Vitamin B9)

Anxie-Tone, B Stress Complex, Cardio-Power, Hematic Formula, High Stress Adrenal, Serious Brain Enhancer, Vegetarian Adrenal, Vegetarian Thyro, Vitamin-Mineral, Vitamin-Mineral Shake, Vitamin B-6, B-12, & Folate

Folic Acid

No FOOD product supplies folic acid as it is not food. Foods supply folate as vitamin B9 source.

Forsythia

Vira-Chron

French Lilac

Gluco-Sugar-Balance

G

Gambir

Uro-Kid Support

Gamma Linolenic Acid

Migratrol, Wheat Germ Oil E

Gardenia

Vira-Chron

Garlic

Cardio-Power, Cholester-Right, Congalmmune, CoQ10-Cardio, Detox-N-Cleanse, Liva DeTox & Support, Para-Dysbio-Zyme, Probio-Zyme-YST, Thymo-Immune, Uro-Kid Support

Gelatin. Bovine

Omega 3/EPA/DHA

Gentian Root

Pro-Enzymes

Ginger Root

Cholester-Right, Digesti-Pan, Herbal Antioxidant

Ginkgo Biloba

Anxie-Tone, Complete Ear Health, Complete Eye Health, Herbal Antioxidant

Glandulars, Cytotrophins

Advanced Joint Complex, Anxie-Tone,
Arginase Bladder, Cardio-Power, Complete
Ear Health, Complete Eye Health, Digesti-Pan,
GB Support, High Stress Adrenal, Intracellular
Cough, Le Feminine Advantage, Liva DeTox
& Support, Metabolic Thyro, Migratrol, Prosta
Power, Restful Mind Support, Serious Brain
Enhancer, Simple Adrenal, Simply Cardio,
Simply Liver, Simply Lung, Simply Mammary,
Simply Orchic, Simply Ovary, Simply Pancreas,
Simply Spleen, Simply Thymus, Simply
Thyroid, Simply Uterus, Uro-Kid Support

Glucoamylase

Digesti-Pan, Pro-Enzymes

Glycerthiza

Vira-Chron

Glucosamine Sulfate (in trachea)

Advanced Joint Complex, Complete Eye Health, Serious Brain Enhancer

Goat's Rue

Gluco-Sugar-Balance

Goldenseal

Para-Dysbio-Zyme, Thymo-Immune

Grape Seed/Skin Extract

Advanced Joint Complex, Libida-Life, Serious Brain Enhancer

Grapefruit Seed Extract

Para-Dysbio-Zyme, Probio-Zyme-YST

Guar Gum

Metabolic Thyro

Guggul Gum

Cholester-Right

Gymnema Sylvestre

Gluco-Sugar-Balance

Η

Hawthorn

Cardio-Power, Cholester-Right. CoQ10-Cardio

Heart, Bovine

Cardio-Power, Intracellular Cough, Simply Cardio

Heartsease

Probio-Zyme-YST

Hemp

Vitamin-Mineral Shake

Horsetail Herb

Advanced Joint Complex, Cal-Mag Complex

Hydrochloric Acid

Digesti-Pan

Hypothalamus, Bovine

Anxie-Tone, High Stress Adrenal, Intracellular Cough, Restful Mind Support, Simply Hypothalamus

I

Indole-3-Carbinol (in broccoli)

Complete Eye Health, Metabolic Thyro

Inositol, Food

Anxie-Tone, B Stress Complex, High Stress Adrenal, Inositol Complex, Serious Brain Enhancer, Vitamin-Mineral

Invertase

Digesti-Pan, Pro-Enzymes

Iodine, Food

Metabolic Thyro, Vegetarian Thyro, Vitamin-Mineral, Vitamin-Mineral Shake

Irish Moss

Arginase Bladder, Vegetarian Thyro

Iron, Food

Hematic Formula, Vitamin-Mineral, Vitamin-Mineral Shake

Isoflavones (in red clover)

Le Feminine Advantage

1

Jerusalem Artichoke

Probio-Zyme-YST

Juniper Berries

Intracellular Cough

K

Kelp/Sea Vegetables

Anxie-Tone, Cholester-Right, High Stress Adrenal, Metabolic Thyro, Vegetarian Adrenal, Vegetarian Thyro, Vitamin-Mineral Shake

Kidney, Bovine

Arginase Bladder, Uro-Kid Support

Korean Red Ginseng

Prosta-Power

L

L-Arginase

Arginase Bladder

L-Arginine

Libida-Life

L-Carnitine

Serious Brain Enhancer

L-Carnosine

Serious Brain Enhancer

L- Cysteine

Cysteine is naturally in all products that contain glandulars, as well as those with Saccharomyces cerevisiae.

L-Glutamine

Glutamine is found in all glandular products.

L-Methionine

Detox-N-Cleanse (in sesame seeds), Serious Brain Enhancer. L-Methionine is also found in all glandular products.

L-Ornithine

Libida-Life

L-Phenylalanine

Vegetarian Tyrosine and all glandular containing products.

L-Serine

Vegetarian Adrenal

L-Tryptophan

Restful Mind Support, Vegetarian Tryptophan, and all glandular containing products

L-Tyrosine

Anxie-Tone, High Stress Adrenal, Metabolic Thyro, Serious Brain Enhancer, Vegetarian Adrenal, Vegetarian Thyro, Vegetarian Tyrosine

Lactase

Digesti-Pan, Pro-Enzymes, Vitamin-Mineral Shake

Lactobacilli

Pro-Enzymes, Probio-Zyme-YST, Vitamin-Mineral Shake

Lactose

Probio-Zyme-YST

Lecithin

Intracellular Cough, Serious Brain Enhancer

Lemon Balm

Restful Mind Support

Linseed

Le Feminine Advantage, Prosta-Power, Serious Brain Enhancer

Lipase

Digesti-Pan, Para-Dysbio-Zyme, Pro-Enzymes, Vitamin-Mineral Shake

Lipoic Acid

Serious Brain Enhancer

Liver, Bovine

Arginase Bladder, Cardio-Power, Congalmmune, Intracellular Cough, Liva DeTox & Support, Metabolic Thyro, Migratrol, Thymolmmune, Simply Liver, Uro-Kid Support

Lonicera

Vira-Chron

Lung

Simply Lung

Lutein

Complete Eye Health

Lycopene

Complete Eye Health, Vegetarian Adrenal

Lymph, Bovine

Conga-Immune, Intracellular Cough

M

Maca

Libida-Life, Prosta-Power

Magnesium, Food

Advanced Joint Complex, Cal-Mag Complex, Infam-Enzymes, Magnesium Complex, Migratrol, Pro-Enzymes

Magnolia

Vira-Chron

Maltase

Green Vegetable Alkalizer, Vitamin-Mineral

Mammary, Bovine

Simply Mammary

Manganese, Food

Cal-Mag Complex, Inflam-Enzymes, Pro-Enzymes, Vitamin-Mineral, Vitamin-Mineral Shake

Medulla, Bovine

Serious Brain Enhancer

Milk Thistle

Herbal Antioxidant, Libida-Life, Liva DeTox & Support

Modified Citrus Pectin

Detox-N-Cleanse

Molybdenum, Food

Vitamin-Mineral, Vitamin-Mineral Shake

Monosaccharides, Essential All

Metabolic Thyro

REFERENCE GUIDE

Moutan

Vira-Chron

Muira-Puama

Prosta-Power

N

N-Aceytl-L-Cysteine

Complete Ear Health, Gluco-Sugar-Balance

Nattokinase

Nattokinase

Nettle Leaf

Aller-Lung Support

Niacinamide, Food

Anxie-Tone, B Stress Complex, High Stress Adrenal, Migratrol, Vitamin-Mineral, Vitamin-Mineral Shake

 \mathbf{O}

Okra

Digesti-Pan

Olive Leaf

Probio-Zyme-YST, Vira-Bac-Yst, Vira-Chron

Omega-3

Complete Eye Health, Le Feminine Advantage, Omega 3/ EPA/ DHA, Serious Brain Enhancer

Omega-6

Complete Eye Health, Le Feminine Advantage, Serious Brain Enhancer, Wheat Germ Oil E

Orange, Bitter

Aller-Lung Support

Orange, Fruit

C Complex, Hematic Formula, Vitamin-Mineral, Vitamin-Mineral Shake

Orchic, Bovine

Prosta-Power, Simply Orchic

Oregano, Wild

Probio-Zyme-YST, Vira-Bac-YST, Vira-Chron

Ovary, Bovine

Le Feminine Advantage, Restful Mind Support, Simply Ovary P

Panax Ginseng

Prosta-Power

Pancreas, Ovine or Bovine

Digesti-Pan, Serious Brain Enhancer, Simply Pancreas, Uro-Kid Support

Pantothenate, Food

Anxie-Tone, B Stress Complex, High Stress Adrenal, Vegetarian Adrenal, Vitamin-Mineral, Vitamin-Mineral Shake

Papain

Inflam-Enzymes

Parathyroid, Bovine

Intracellular Cough

Parotid, Bovine

Anxie-Tone, Complete Smell & Taste, Restful Mind Support, Thymo-Immune

Parsley Leaf

Green Vegetable Alkalizer, Vitamin Mineral Shake

Passion Fruit

Anxie-Tone, Intracellular Cough

Pea

Arginase Bladder, Vegetarian Tyrosine

Peppermint

Vitamin-Mineral Shake

Pepsin

Digesti-Pan

Phellodendron

Vira-Chron

Phosphorus, Food

All FOOD products contain phosphorus.

Pineal, Ovine or Bovine

Intracellular Cough, Restful Mind Support

Pituitary, Bovine

Metabolic Thyro, Migratrol, Intracellular Cough, Restful Mind Support, Serious Brain Enhancer

Policosanol

Cholester-Right

Pomegranate

Cholester-Right

Potassium, Food

All Food products contain potassium, but the highest percentage is probably Green Vegetable Alkalizer.

Princess Pea

Vegetarian Tyrosine

Proanthocyanidins

Advanced Joint Complex, Serious Brain Enhancer

Probiotics

Pro-Enzymes, Probio-Zyme-YST, Vitamin-Mineral Shake

Prostate, Bovine

Prosta-Power

Proteolytic Enzymes/Protease

Digesti-Pan, Inflam-Enzymes, Para-Dysbio-Zyme, Vitamin-Mineral Shake

Q

Quercitin

Aller-Lung Support

R

Red Beet and/or Beet Leaf

Arginase Bladder,Digesti-Pan, GB Support, Liva DeTox & Support, Pro-Enzymes, Probio-Zyme-Yst, Uro-Kid Support

Red Clover

Le Feminine Advantage

Resveratrol

Libida-Life

Riboflavin, food

Anxie-Tone, B Stress Complex, High Stress Adrenal, Migratrol, Vitamin-Mineral

Ribonucleic Acid (RNA)

Serious Brain Enhancer

Rice Bran

Anxie-Tone, Arginase Bladder, Cholester-Right, Complete Eye Health, Conga-Immune, CoQ10-Cardio, Selenium E, Vegetarian Adrenal, Vitamin-Mineral, Vitamin-Mineral Shake

Rosemary Leaf

Complete Eye Health, Herbal Antioxidant

Rutin (in buckwheat)

Arginase Bladder, Conga-Immune, Uro-Kid Support, Vira-Bac-YST

S

Saccharomyces Boulardii

Probio-Zyme-YST

Saccharomyces Cerevisiae

Advanced Joint Complex, Anxie-Tone, B Stress Complex, Cal-Mag Complex, Calcium Complex, Cardio-Power, Complete Ear Health, Complete Eye Health, Complete Smell & Taste, Conga-Immune, Digesti-Pan, D Complex, Choline Complex, Gluco-Sugar-Balance, Hematic Formula, Herbal Antioxidant, High Stress Adrenal, Inflam-Enzymes, Inositol Complex, Libida-Life, Magnesium Complex, Metabolic Thyro, Migratrol, Prosta-Power, Selenium E, Serious Brain Enhancer, Thymo-Immune, Uro-Kid Support, Vegetarian Adrenal, Vegetarian Thyro, Vitamin-Mineral, Vitamin & Mineral Shake, Vitamin B-6, B-12, & Folate, Zinc Complex

Saw Palmetto

Prosta-Power

Schisandra Fruit

Herbal Antioxidant

Scullcap

Metabolic Thyro

Selenium, Food

Cardio-Power, Complete Eye Health, Herbal Antioxidant, Libida-Life, Prosta-Power, Selenium E, Serious Brain Enhancer, Vitamin-Mineral, Vitamin-Mineral Shake

Serrapeptase

Inflam-Enzymes

Shitake Mushroom

 ${\it Conga-Immune}, {\it D} \, {\it Complex}$

Siberian Ginseng (Eleuthero Root)

Herbal Antioxidant, High Stress Adrenal, Serious Brain Enhancer, Thymo-Immune

Silicon, Food

Advanced Joint Complex, Cal-Mag Complex, Vitamin-Mineral, Vitamin-Mineral Shake

Silymarin (in milk thistle)

Herbal Antioxidant, Libida-Life, Livá DeTox & Support

Slippery Elm

Detox-N-Cleanse

Sodium, Food (in kelp)

Anxie-Tone, Cholester-Right, High Stress Adrenal, Metabolic Thyro, Vegetarian Adrenal, Vegetarian Thyro, Vitamin-Mineral Shake

Spinach

Green Vegetable Alkalizer, Vitamin-Mineral Shake

Spirulina

Green Vegetable Alkalizer, Vitamin-Mineral Shake

Spleen, Bovine

Conga-Immune, Digesti-Pan, Intracellular Cough, Liva DeTox & Support, Simply Spleen, Thymo-Immune

Stevia

Vitamin-Mineral Shake

Stinging Nettles

Aller-Lung Support, Prosta-Power, Vira-Chron

Suma

Prosta-Power

Superoxide Dismutase (SOD)

Advanced Joint Complex, Anxie-Tone, B Stress Complex, Cal-Mag Complex, Calcium Complex, Cardio-Power, Complete Ear Health, Complete Eye Health, Complete Smell & Taste, Conga-Immune, Digesti-Pan, D Complex, Choline Complex, Gluco-Sugar-Balance, Hematic Formula, Herbal Antioxidant, High Stress Adrenal, Inflam-Enzymes, Inositol Complex, Libida-Life, Magnesium Complex, Metabolic Thyro, Migratrol, Prosta-Power, Selenium E, Serious Brain Enhancer, Thymo-Immune, Uro-Kid Support, Vegetarian Adrenal, Vegetarian Thyro, Vitamin-Mineral, Vitamin & Mineral Shake, Vitamin B-6, B-12, & Folate, Zinc Complex

T

Thiamin, Food

Anxie-Tone, B Stress Complex, High Stress Adrenal, Vitamin-Mineral

Thyme

Aller-Lung Support

Thymus, Bovine

Anxie-Tone, Conga-Immune, Intracellular Cough, Simply Thymus, Thymo-Immune

Thyroid, Bovine

Intracellular Cough, Metabolic Thyro, Migratrol, Simply Thyroid (an alternative would be Vegetarian Thyro)

Tillandsia

Complete Ear Health, Intracellular Cough, Probio-Zyme-YST

Tomatoes

Complete Eye Health, Vegetarian Adrenal

Trachea, Bovine

Advanced Joint Complex, Intracellular Cough, Serious Brain Enhancer

Turmeric Root

Cholester-Right, Herbal Antioxidant, Prosta-Power

U

Ubiquinone

Co-Q10 Cardio, Vitamin-Mineral

Uterus, Bovine

Le Feminine Advantage, Simply Uterus

Uva Ursi

Intracellular Cough

V

Vanadium, Food

Gluco-Sugar-Balance, Vitamin-Mineral

Vanilla

Vitamin-Mineral Shake

Vitamin A, Alpha/Betacarotene

Herbal Antioxidant, Vitamin-Mineral, Vitamin-Mineral Shake

Vitamin B Complex

Anxie-Tone, B Stress Complex, High Stress Adrenal, Vitamin-Mineral, Vitamin-Mineral Shake

Vitamin B-1 (Thiamin), Food

Anxie-Tone, B Stress Complex, High Stress Adrenal, Vitamin-Mineral, Vitamin-Mineral Shake

Vitamin B-2 (Riboflavin), Food

Anxie-Tone, B Stress Complex, High Stress Adrenal, Migratrol, Vitamin-Mineral, Vitamin-Mineral Shake

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Vitamin B-3, (Niacinamide) Food

Anxie-Tone, B Stress Complex, High Stress Adrenal, Migratrol, Vitamin-Mineral, Vitamin-Mineral Shake

Vitamin B-5, (Pantothenate) Food

Anxie-Tone, B Stress Complex, High Stress Adrenal, Vegetarian Adrenal, Vitamin-Mineral, Vitamin-Mineral Shake

Vitamin B-6, Food

Anxie-Tone, B Stress Complex, Cardio-Power, High Stress Adrenal, Serious Brain Enhancer, Vegetarian Adrenal, Vegetarian Thyro, Vitamin-Mineral, Vitamin-Mineral Shake, Vitamin B-6, B-12, & Folate

Vitamin B-12, Food

Anxie-Tone, B Stress Complex, Cardio-Power, Hematic Formula, High Stress Adrenal, Serious Brain Enhancer, Vegetarian Adrenal, Vegetarian Thyro, Vitamin-Mineral, Vitamin-Mineral Shake, Vitamin B-6, B-12, & Folate

Vitamin "B-17"

Para-Dysbio-Zyme, Serious Brain Enhancer, Vira-Bac-Yst

Vitamin C, Food

Advanced Joint Complex, Anxie-Tone, C Complex, Cal-Mag Complex, Cardio-Power, Complete Eye Health, Conga-Immune, Hematic Formula, Herbal Antioxidant, High Stress Adrenal, Intracellular Cough, Inflam-Enzymes, Serious Brain Enhancer, Thymo-Immune, Vegetarian Adrenal, Vitamin-Mineral, Vitamin-Mineral Shake

Vitamin D, Food

Advanced Joint Complex, Cal-Mag Complex, D Complex, Vitamin-Mineral, Vitamin-Mineral Shake

Vitamin E, Food

Cardio-Power, Complete Eye Health, Herbal Antioxidant, Prosta-Power, Selenium E, Vitamin-Mineral, Vitamin-Mineral Shake

Vitamin "F"

Complete Eye Health, Migratrol, Omega 3/EPA/DHA, Serious Brain Enhancer, Wheat Germ Oil E

Vitamin "G" (Riboflavin)

Anxie-Tone, B Stress Complex, High Stress Adrenal, Migratrol, Vitamin-Mineral, Vitamin-Mineral Shake

Vitamin "H" (Biotin)

Anxie-Tone, B Stress Complex, Vitamin-Mineral, Vitamin-Mineral Shake

Vitamin K, Food

Cal-Mag Complex, Green Vegetable Alkalizer, Vitamin-Mineral

Vitamin "P" (Bioflavonoids)

Advanced Joint Complex, Aller-Lung Support, Anxie-Tone, Arginase Bladder, B Stress Complex, C Complex, Cal-Mag Complex, Cardio-Power, Complete Eye Health, CoQ10-Cardio, Conga-Immune, DeTox-N-Cleanse, Hematic Formula, Herbal Antioxidant, High Stress Adrenal, Inflam-Enzymes, Intracellular Cough, Serious Brain Enhancer, Thymo-Immune, Vegetarian Adrenal, Vitamin-Mineral

Vitex

Vira-Chron

W

Watercress

Green Vegetable Alkalizer, Vitamin-Mineral Shake

Wheat Germ

Probio-Zyme-YST

Wheat Germ Oil

Wheat Germ Oil E

Wheat Grass

Detox-N-Cleanse, Green Vegetable Alkalizer, Vitamin-Mineral Shake

Winged Bean

Vegetarian Tyrosine

Wild Yam Root

Le Feminine Advantage



Xanthium

Vira-Chron



Yucca

Advanced Joint Complex



Zeaxanthin

Complete Eye Health

Zinc

Advanced Joint Complex, Complete Eye Health, Herbal Antioxidant, High Stress Adrenal, Libida-Life, Prosta-Power, Vegetarian Thyro, Vitamin-Mineral, Vitamin-Mineral Shake, Zinc Complex

The Truth About Minerals in Nutritional Supplements

Abstract: Even though natural health professionals agree that humans should not try to consume industrial chemicals, most seem to overlook this fact when mineral supplementation is involved. And even though many people interested in natural health take minerals, the truth is that nearly all the minerals taken are "natural" for nothing except plants and/or industrial chemicals. While plants are designed to ingest and break-down minerals, humans are not. The truth about nearly all minerals in supplements is that they are really industrial chemicals made from processing rocks with one or more acids. The consumption of this "other half" of the mineral compound is not only unnatural, it can lead to toxicity concerns. Humans were designed to eat food and to get their minerals from foods. Foods DO NOT naturally contain minerals bound to substances such as picolinic acid, carbonates, oxides, phosphates, etc. When supplementation is indicated, only supplements made from 100% food should be considered for supporting optimal health.

In a nutritional context, minerals are certain elements, such as iron and phosphorus that are essential for the physiology of living organisms to exist.

When it comes to nutrition, plants and humans differ: "a typical plant makes its own food from raw materials... A typical animal eats its food" [1]. For plants, these raw materials include soil-based inorganic mineral salts [2]. Soil-based mineral salts can be depleted through synthetic fertilizers, herbicides, pesticides, as well as repeatedly growing crops on the same soil [3,4].

Plants, with the aid of enzymes and soil-based microorganisms, can take in from soil the mineral salts that they have an affinity for through their roots or hyphae [4]. After various metabolic processes, when these minerals no longer exist as salts, they become complexed with various carbohydrates, lipids, and proteins present in the plant as part of the living organism [5]. Thus for nutrition, humans eat plants and/or animals that eat plants, whereas plants can obtain their nutrients from the soil [4]. This process is commonly referred to as the "food chain" [5].

Unfortunately most mineral supplements contain minerals in the form referred to as 'mineral salts'. Even though mineral salts are often called "natural", they are rocks (e.g. calcium carbonate exists as the rock commonly known as limestone) or they are chemically produced in accordance with the United States Pharmacopoeia (USP). Mineral salts are natural food for plants, they are not a natural food for humans—humans do not have roots or hyphae!

Dietary Guideline number 18 of the Weston A. Price Foundation, an organization devoted to consuming real foods, is: "Use only natural, food-based supplements" [6]. One of the standards of naturopathy agreed to in 1947 was, "Naturopathy does not make use of synthetic or inorganic vitamins or minerals" [7]. Why would naturopaths have mentioned minerals since they are 'natural'? Because even back then, most naturopaths knew that the inorganic minerals being placed into supplements were often simply industrial rocks and not foods. Little has changed in the nearly seven decades since. This paper documents the availability, sources, and some of the chemical differences between minerals found in foods and the industrially processed mineral salts that are found in most 'natural' mineral supplements.

Absorption

Mineral absorption is affected by many factors including the chemical form, structural form, existence or lack of protein chaperones, health, dietary factors, and even medications.

"Absorptive efficiency for many minerals is governed by homeostatic feedback regulation. When the body is in a depleted state, the intestine upregulates absorption of the nutrient. At the biochemical level, this regulation must be expressed by the control of intraluminal binding lignans, cell-surface receptors, intracellular carrier proteins, intracellular storage proteins, or the energetics of the transmembrane transport...In general mineral bioavailability decreases because of many drugs, decreases with age, and in the presence of malnutrition, is associated with poorer integrity of the small intestine. Therefore, older individuals who are often taking numerous medications and who are eating more poorly than young people are at greater risk of mineral deficiencies" [8].

Chemical

The basic difference between minerals found in foods and those found in industrial mineral salts is chemical.

"The chemical form of a mineral is an important factor in its absorption and bioavailability...there is evidence that the form in which minerals are ingested affects absorption. For example, particle size, surface area, and solubility of a substance affects is dilution rate...In many solid foods, elements are not free, but firmly bound in the food matrix" [8].

This, of course, is not true of most minerals in supplements as they are normally industrially processed inorganic rocks (mineral salts) hence they are void of the factors found in a food matrix. Only 100% food minerals have minerals attached in a food matrix. Minerals are normally found in food; and in the body they are attached with some peptide [9,10]. When humans eat plants or animals they are consuming minerals in those forms. Humans are not supposed to directly consume soil components [1]. With the exception of sodium chloride (common table salt), humans do not normally in any significant quantity consume minerals in the chemical forms known as mineral salts. When they do, it is considered to be a disorder called 'geophagia' or 'pica' [11,12].

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It is a fact that mineral salts are often called "natural", but they are not food minerals. Mineral salts are normally inorganic molecular compounds that look like rocks [13]. Mineral salts are a compound containing a mineral element, which is the mineral normally listed on a supplement label, and some other substance it is chemically bound to. Mineral salts are either rocks (e.g. calcium carbonate exists as the rock commonly known as limestone) or they are rocks that are chemically-altered. Mineral salts are natural food for plants which can chemically change and detoxify them [14]. They are not a natural food for humans, although some people do consider crushed bones and naturally-calcified sea algae, etc. as food. Minerals bound in mineral salts simply are not treated the same way in the body as are minerals found in food.

Minerals vs. Industrial Chemicals

The following list describes what many mineral salts/chelates used in supplements actually are and what they are used for when not in supplements:

- Boric acid is the rock known as sassolite. It is used in weatherproofing wood, fireproofing fabrics, and as an insecticide [15].
- **Calcium ascorbate** is calcium carbonate processed with ascorbic acid and acetone. It is a manufactured product used in 'non-food' supplements [15].
- **Calcium carbonate** is the rock known as limestone or chalk. It is used in the manufacture of paint, rubber, plastics, ceramics, putty, polishes, insecticides, and inks. It is also used in fillers for adhesives, matches, pencils, crayons, linoleum, insulating compounds, and welding rods [15].
- **Calcium chloride** is calcium carbonate and chlorine and is the byproduct of the Solvay ammonia-soda process. It is used for antifreeze, refrigeration, fire extinguisher fluids, and to preserve wood and stone. Other uses include cement, coagulant in rubber manufacturing, controlling dust on unpaved roads, freezeproofing of coal, and increasing traction in tires [15].
- **Calcium citrate** is calcium carbonate processed with lactic and citric acids. It is used to alter the baking properties of flour [15].
- **Calcium gluconate** is calcium carbonate processed with gluconic acid, which is used in cleaning compounds. It is used in sewage purification and to prevent coffee powders from caking [15].
- **Calcium glycerophosphate** is calcium carbonate processed with dl-alpha-glycerophosphates. It is used in dentifrices, baking powder, and as a food stabilizer [15].
- Calcium hydroxyapatite is crushed bone and bone marrow. It is used as a fertilizer [16].
- **Calcium iodide** is calcium carbonate processed with iodine. It is an expectorant [15].
- Calcium lactate is calcium carbonate processed with lactic acid. It is used as a dentifrice and as a preservative [15].
- **Calcium oxide** is basically burnt calcium carbonate. It is used in bricks, plaster, mortar, stucco, and other building materials. It is also used in insecticides and fungicides [15].
- **Calcium phosphate, tribasic** is the rock known as oxydapatit or bone ash. It is used in the manufacture of fertilizers, milk-glass, polishing powders, porcelain, pottery, and enamels [15].
- **Calcium stearate** is an octodecanoic calcium salt and can be extracted from animal fat. It is used for waterproofing fabrics and in the production of cement, stucco, and explosives [15].
- Chromium chloride is a preparation of hexahydrates. It is used as a corrosion inhibitor and waterproofing agent [15].
- Chromium picolinate is chromium III processed with picolinic acid. Picolinic acid is used in herbicides [17].
- **Copper aspartate** is made "from the reaction between cupric carbonate and aspartic acid (from chemical synthesis)" [18]. It is a manufactured product used in 'non-food' supplements [18].
- **Copper (cupric) carbonate** is the rock known as malachite. It is used as a paint and varnish pigment, plus as a seed fungicide [15].
- Copper gluconate is copper carbonate processed with gluconic acid. It is used as a deodorant [19].
- Copper (cupric) glycinate is a copper salt processed with glycine. It is used in photometric analysis for copper [15].
- **Copper sulfate** is copper combined with sulfuric acid. It is used as a drain cleaner and to induce vomiting; it is considered as hazardous heavy metal by the City of Lubbock, Texas that "can contaminate our water supply" [20].
- **Dicalcium phosphate** is the rock known as monetite, but can be made from calcium chloride and sodium phosphate. It is used in 'non-food' supplements [18].
- Ferric pyrophosphate is an iron rock processed with pyrophosphoric acid. It is used in fireproofing and in pigments [15].
- Ferrous lactate is a preparation from isotonic solutions. It is used in 'non-food' supplements [15].
- Ferrous sulfate is the rock known as melanterite. It is used as a fertilizer, wood preservative, weed-killer, and pesticide [15].
- Magnesium carbonate is the rock known as magnesite. It is used as an antacid, laxative, and cathartic [15].
- **Magnesium chloride** is magnesium ammonium chloride processed with hydrochloric acid. It fireproofs wood, carbonizes wool, and is used as a glue additive and cement ingredient [15].
- Magnesium citrate is magnesium carbonate processed with acids. It is used as a cathartic [15].
- Magnesium glycinate is a magnesium salt processed with glycine. It is used in 'non-food' supplements.
- Magnesium oxide is normally burnt magnesium carbonate. It is used as an antacid and laxative [15].
- Manganese carbonate is the rock known as rhodochrosite. It is used as a whitener and to dry varnish [15].
- **Manganese gluconate** is manganese carbonate or dioxide processed with gluconic acid. It is a manufactured item used in 'non-food' supplements [15].
- Manganese sulfate is made "from the reaction between manganese oxide and sulfuric acid" [18]. It is used in dyeing and varnish production [15].
- **Molybdenum ascorbate** is molybdenite processed with ascorbic acid and acetone. It is a manufactured item used 'non-food' supplements [21].
- Molybdenum disulfide is the rock known as molybdenite. It is used as a lubricant additive and hydrogenation catalyst [15].

- Potassium chloride is a crystalline substance consisting of potassium and chlorine. It is used in photography [15].
- **Potassium iodide** is made from HI and KHCO3 by melting in dry hydrogen and undergoing electrolysis. It is used to make photographic emulsions and as an expectorant [15].
- **Potassium sulfate** appears to be prepared from the elements in liquid ammonia. It is used as a fertilizer and to make glass [15].
- **Selenium oxide** is made by burning selenium in oxygen or by oxidizing selenium with nitric acid. It is used as a reagent for alkaloids or as an oxidizing agent [15].
- Seleniomethionine is a selenium analog of methionine. It is used as a radioactive imaging agent [15].
- **Silicon dioxide** is the rock known as agate. It is used to manufacture glass, abrasives, ceramics, enamels, and as a defoaming agent [15].
- **Vanadyl sulfate** is a blue crystal powder known as vanadium oxysulfate. It is used as a dihydrate in dyeing and printing textiles, to make glass, and to add blue and green glazes to pottery [15].
- **Zinc acetate** is made from zinc nitrate and acetic anhydride. It is used to induce vomiting [15].
- **Zinc carbonate** is the rock known as smithsonite or zincspar. It is used to manufacture rubber [15].
- Zinc chloride is a combination of zinc and chlorine. It is used as an embalming material [15].
- **Zinc citrate** is smithsonite processed with citric acid. It is used in the manufacture of some toothpaste [15].
- Zinc gluconate is a zinc rock processed with gluconic acid. Gluconic acid is used in many cleaning compounds [15].
- **Zinc lactate** is smithsonite processed with lactic acid. Lactic acid lactate is used as a solvent [15].
- **Zinc monomethionine** is a zinc salt with methionine. It is used as a 'non-food' supplement.
- Zinc orotate is a zinc rock processed with orotic acid. Orotic acid is a uricosuric (promotes uric acid excretion) [15].
- Zinc oxide is the rock known as zincite. It is used as a pigment for white paint and as part of quick-drying cement [15].
- **Zinc phosphate** is the rock known as hopeite. It is used in dental cements [15].
- **Zinc picolinate** is a zinc rock processed with picolinic acid. Picolinic acid is used in herbicides [17].
- Zinc sulfate can be a rock processed with sulfuric acid. It is used as a corrosive in calico-printing and to preserve wood [15].

There is a relatively easy way to tell if minerals are industrial chemicals. Whenever there are two-words on a label describing a mineral, it is a logical to conclude that the substance is an industrial mineral product and not 100% food. The exception is chromium GTF (the GTF stands for glucose tolerance factor) which is food if it is from nutritional yeast [18].

Chelated Minerals

Chelated minerals are generally crushed industrial rocks that are processed with one or more acids.

Probably the biggest difference in minerals now compared to 1947 is that some companies have decided to industrially produce versions of minerals attached to peptides. Essentially they take a rock or industrial mineral salt, chemically alter it, and attempt to attach it to the mineral. This results in a mineral that is different from normal mineral salts, but does not turn the substance into a food. Examples of this include the various mineral ascorbates, picolinates, aspartates, glycinates, and chelates. It must be understood that since there is not a universally accepted definition of the term 'chelate', when this term is used on a label, one generally does not know if the chelate is amino-acid based or some type of industrial acid.

While it is true that humans can, and do, utilize minerals from USP mineral salts or chelated minerals, this is not as safe (or even normally as effective) as consuming them from foods (or in the case of real food supplements, food concentrates).

Non-Food Attachments, Including Some "Chelates," Are Not Desirable

Is it wise to consume non-food minerals?

Dr. Bernard Jensen, an early 20th century advocate of food-based nutrition, once wrote, "When we take out from foods some certain salt, we are likely to alter the chemicals in those foods. When extracted from food, that certain chemical salt is extracted, may even become a poison. Potash by itself is a poison, whether it comes from a food or from the drugstore. This is also the case with phosphorus. You thereby overtax your system, and your functions must work harder in order to throw off those inorganic salts or poisons introduced... The chemical elements that build our body must be in biochemical, life-producing form. They must come to us as food, magnetically, electrically alive, grown from the dust of the earth... When we are lacking any element at all, we are lacking more than one element. There is no one who ever lacked just one element. We don't have a food that contains only one element, such as a carrot entirely of calcium or sprouts totally made of silicon" [22].

It should be noted that the addition of "citric acid and picolinic acid do not appear to enhance zinc absorption" [23]. Chromium picolinate is a human-made substance, created by Gary Evans [24]; it is not a natural food. Picolinic acid is used in herbicides [17]; furthermore "picolinic acid is an excretory or waste product. It is not metabolized by or useful to the body" [25]. Scientists report, "some research groups recently suggested that chromium (III) picolinate produces significantly more oxidative stress and potential DNA damage than other chromium supplements" [26].

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Concerns are being raised from various sources about the implications of intentional ingestion of inorganic substances in supplements by human beings [22,25,26]. These substances are not natural for humans to consume and a long period of consumption may cause some type of toxic accumulation [22,25,26]. Yet, many people supposedly interested in natural health are daily consuming various carbonates, gluconates, oxides, picolinates, phosphates, sulfates and other rock components that were not intended to be ingested that way. Since there are many possible negative implications associated with "the other half" of these non-food minerals [25], people truly interested in their health would be much better off consuming foods that are high in minerals or supplements made from those foods.

Jay Patrick claims to have originally developed procedures to manufacture all seven of the mineral ascorbates [21]; thus it would seem highly inappropriate to call supplements with ascorbate attached minerals 'food'.

Actually, it does not appear that any of the minerals marketed as 'chelated' are food concentrates, though there are foods which contain naturally chelated minerals, but these are normally marketed as food minerals. Even though there are some theoretical advantages to industrially-produced mineral 'chelates' as compared to inorganic mineral salts, these chelates are not natural food.

More on Bioavailability

It is well known among nutrition researchers that most essential minerals are not well absorbed; for some minerals, absorption is less than 1% [27]. "Bioavailability of orally administered vitamins, minerals, and trace elements is subject to a complex set of influences...In nutrition science the term 'bioavailability' encompasses the sum of impacts that may reduce or foster the metabolic utilization of a nutrient" [28]. Research demonstrates that the bioavailability and/or effectiveness of mineral containing foods is greater than that of isolated inorganic mineral salts or mineral chelates [e.g. 28-52]. These studies have concluded that natural food minerals may be better absorbed, utilized, and/or retained than mineral salts.

Furthermore, minerals used in most supplements do not contain protein chaperones or other food factors needed for absorption into the cell. In 1999, the Nobel Prize for medicine was awarded to Guenter Blobel who discovered that minerals need protein chaperones to be absorbed into cellular receptors. When mineral salts without protein chaperones are consumed, "It is after digestion when other mineral forms {mineral salts} have their mineral cleaved from their carriers. In this situation, these minerals become charged ions, and their absorbability Is in jeopardy. These charged free minerals are known to block the absorption of one another, or to combine with other dietary factors to form compounds that are unabsorbable" [53]. The body must discard the residual chemicals.

Foods used in supplements that commonly provide significant quantities of essential minerals include dulse, horsetail herb, kelp, nutritional yeast, rice bran, and water thyme. These types of foods have been shown to contain not only minerals in natural food forms, but also important protein chaperones such as ATX1 and ceruplasmin [54,55]. Industrial mineral salts do not contain the protein chaperones or other food factors needed for proper mineral absorption. Furthermore, some foods also contain factors which reduce the probability of certain minerals to be toxic to the body [32,33,55]; industrial mineral salts and chelates are simply not that complete.

Quantitative and Qualitative Differences

There are quantitative and qualitative differences in food vs. non-food minerals. Table 1 lists some of them by mineral.

Table 1 Quantitative and Qualitative Differences

Food Mineral	Compared to Mineral Salt/Chelate
Calcium	Up to 8.79 times more absorbed into the blood [47] and 7 times as effective in raising serum ionic calcium levels [30].
Chromium	Up to 25 times more bioavailable [31].
Copper	85% more absorbed [45]; also contains substances that reduce potential toxicity [32,46].
Iron	Safer, non-constipating, 77% more absorbed [33, 34, 45].
Magnesium	Up to 2.20 times better absorbed [52] and retained [35].
Manganese	Better absorbed and retained [45,46] and not as likely to contribute to toxicity as mined forms [36,56].
Molybdenum	Up 6.28 times better absorbed into the blood and 16.49 times better retained [45].
Phosphorus	Less likely to cause diarrhea or electrolyte disorders [37].
Selenium	17.6 time the antioxidant effect [46], 123.01 times more effective in preventing nonenzymatic protein glycation [17], and 2.26 times better retained [29,38,44].
Vanadium	Safer and 50% more effective [39].
Zinc	Up to 6.46 times better absorbed [45,46,51], better form [40,41].

Foods, almost by definition, are not toxic, and as mentioned earlier, can have protective factors to prevent certain potential mineral toxicities, such as those sometimes associated with copper, iron, manganese, or other minerals [32,33,55,56].

Information by Individual Mineral

Some differences between food complexed minerals and mineral salts have been documented by published research and are shown by individual mineral below:

Boron

"Boron complexes with organic compounds containing hydroxyl groups" [9], which is how it is found in foods. Boron affects macromineral and steroidal hormone metabolism; without sufficient boron bone composition, strength, and structure weaken [9].

Calcium

"The amount of calcium absorbed depends on its interaction with other dietary constituents...The absorbability of calcium is mainly determined by the presence of other food constituents" [56]. This is one of the reasons why isolated calcium mineral salts (such as calcium carbonate) are not absorbed as well as calcium found in natural food complexes [56,57]. "Calcium carbonate, an antacid, counteracts not only the absorption of calcium, but also the absorption of iron" [11] (though its calcium absorption appears to be better with food [58]). At least one researcher has concluded that commonly used mineral salts such as calcium lactate and calcium gluconate primarily succeed in creating high blood calcium levels (hypercalcemia) instead of alleviating symptoms of low tissue calcium [59]. "Calcium has a structural role in bones and teeth" as well as in some enzymes involved with blood clotting [48]. Calcium can affect mood and blood pressure [57,60]. Clinical reports consistently confirm that dietary/food calciums [5-8] are important in the management of blood pressure. This does not appear to be the case with isolated calcium salts (the results appear inconsistent [30,61-63]). One study found that calcium in Food raised serum ionic calcium levels from 1.08 to 1.15 mmoles, but that serum ionic calcium levels were not raised with calcium carbonate [30]. Serum calcium levels affect blood pressure [60,64]. Since low bone mass is somewhat inversely correlated with high levels of diastolic blood pressure [9], this suggests that calcium from Food may be superior when hypertension issues are present. Calcium is important for optimal health as calcium deficiencies can contribute to osteoporosis, muscle (especially the legs) cramps, insomnia, mood/behavioral/nerve problems, hypertension, kidney stones, and colon cancer [61,65,66]. It appears that overdose of calcium can only occur when taking mineral salt forms of calcium supplement as opposed to food [66]. A human study found that Natural Food Complex calcium is 8.79 times more bioavailable than calcium carbonate (which is the most common form found in supplements) and 2.97 times more than calcium gluconate [47]. This same study found that Food calcium "produced no undesirable side effects and was the most suitable form of calcium for long-term supplementation" [47].

Chromium, GTF

"The biologically active form of chromium, sometimes called glucose tolerance factor or GTF, has been proposed to be a complex of chromium, nicotinic acid, and possibly the amino acids glycine, cysteine, and glutamic acid. Many attempts have been made to isolate or synthesize the glucose tolerance factor; none have been successful" [67]. Chromium is not naturally found in the body in the commonly supplemented forms such as chromium picolinate or chromium chelate. "Chromium is generally accepted as an essential nutrient that potentiates insulin action, and thus influences carbohydrate, lipid, and protein metabolism" [67]. Research suggests that there is much less likelihood of toxicity from natural food complex chromium than from forms such as chromium picolinate [26]. Only 1% or less of inorganic chromium is absorbed vs.10-25% of chromium GTF [31]. One small study found that Food chromium GTF reduced blood glucose levels by 16.8% versus 6.0% for inorganic chromium [48], thus it was 2.80 times more effective. One study found that Food chromium benefited certain diabetics by improving blood glucose control, lowering serum lipids, and decreasing the risk of coronary heart disease [49]. Chromium GTF only comes from nutritional yeast [58].

Copper

In the human body, in addition to various plasma-bound coppers, "at least one copper peptide complex" has been isolated [60]. Copper is predominantly found in Food nutrients in a copper peptide complex (such as Cu/Zn superoxide-dismutase). Copper is not naturally found in the body in the form of copper gluconate or copper sulfate. "Anemia, neutropenia, and osteoporosis are observed with copper deficiency." Copper is involved in connective tissue, iron metabolism, the central nervous system, melanin pigment, thermal regulation, cholesterol metabolism, immune function, and cardiac function [60]. Copper in foods like nutritional yeast contains protective factors that reduce the possibility of toxicity issues [32,46]. A human study found that Food copper was 1.44 times more absorbed into the blood than copper sulfate and 1.43 times more than copper gluconate [45]. Animal studies showed similar results, plus concluded that Food copper was retained in the liver 1.85 times more than copper gluconate and 1.42 times more than copper sulfate [45].

Iodine

Most of the iodine in the body exists in the form of iodine-containing amino acids [61]. Iodine is needed by the thyroid gland to produce thyroid hormones which influence most of the body's metabolic processes [61]. Kelp is an excellent food source of iodine [61].

Iron

Most researchers acknowledge that organic iron is better absorbed than inorganic iron [71]. The body has different mechanisms for the absorption of iron depending upon its form [72]. Iron in foods is found in an organic form. Iron is required for growth and hemoglobin formation; inadequate amounts can lead to "weakness, fatigue, pallor, dyspnea on exertion, palpitation, and a sense of being overly tired" [72]. Iron in food is safer, less-constipating (actually it is non-constipating), and better absorbed than non-food forms [33,34]. An animal study found that Food iron was absorbed into the blood 1.01 times more than ferrous sulfate and 1.77 times more than amino acid chelated iron and was retained in the liver 1.21 times more than ferrous sulfate and 1.68 times more than amino acid chelated iron [45,46].

Magnesium

"The percentage of absorption of ingested magnesium is influenced by its dietary concentration and by the presence of inhibiting or promoting dietary components [73]. There are no promoting dietary components in inorganic isolated magnesium salts. "Magnesium is involved in many enzymatic steps in which components of food are metabolized and new products are formed": it is involved in over 300 such reactions [6]. Clinical deficiency of magnesium can results in "depressed tendon reflexes, muscle fasciculations, tremor, muscle spasm, personality changes, anorexia, nausea, and vomiting" [73]. Magnesium in foods is better absorbed and retained than magnesium from inorganic mineral salts [35]. A human study found that Natural Food Complex magnesium was 2.20 times more absorbed into blood than magnesium oxide and 1.60 times more than amino acid chelated magnesium [52].

Manganese

In the body, absorbed manganese complexes with various peptides [9]. Manganese is predominantly found in foods in a manganese peptide complex (such as Mn superoxide-dismutase). It is not found in the body in forms like manganese sulfate. Manganese deficiency can cause "impaired growth, skeletal abnormalities, disturbed or depressed reproductive function, ataxia of the newborn, and defects in lipid and carbohydrate metabolism" [9]. It can also affect skin, hair, nails, and problems with calcium metabolism [9]. Manganese in foods is safer and much less likely to cause any toxicity compared to mined forms [36,56]. An animal study found that Natural Food Complex manganese was absorbed 1.56 times more into the blood and was retained 1.63 times more in the liver than manganese sulfate [45,46].

Molybdenum

Molybdenum...in foods...is readily absorbed" [9]. "Molydenum in {nearly all} nutritional supplements is in the form of either sodium molybdate or ammonium molybdate. Molybdenum in food is principally in the form of molydenum cofactors" [67]. "Molybdenum functions as an enzyme cofactor", thus "detoxifies various pyrimidines, purines, pteridines, and related compounds" [9]; it may also affect growth and reproduction [9]. An animal study found that Food molybdenum was absorbed 6.28 times more into the blood and was retained 16.49 times more in the liver than ammonium molybdate and 10.27 times more than molybdenum amino acid chelate [45].

Phosphorus

Phosphorus is found in plants [11]. Phosphorus salts can cause diarrhea and other problems [37]—problems that do not happen with phosphorus in foods. Phosphorus works with calcium to produce strong bones [57].

Potassium

Potassium is found in plants [11]. Potassium is the leading intracellular electrolyte and is necessary for electrolyte balance, stimulating aldersterone for the adrenal glands, and blood pressure regulation [11]. Dr. Bernard Jensen seemed to believe potassium is only safe in its natural food complex form [22].

Selenium

"The predominant form of selenium in animal tissues is selenocysteine" [74]. That is how it is predominantly found in certain foods. One study found that diets naturally high in selenium (daily consumption as high as 724mcg) produced no signs or symptoms of selenium overexposure while another found that exceedingly high consumption of selenium salts could induce selenium poisoning [74]. Selenium seems to support thyroid hormone production, function as part of many enzymes, and have antioxidant effects [74]. Larry Clark, Ph.D. and others have found that selenium in yeast appears to reduce risk of certain cancers [75]. Julian Whitaker, M.D. reports, "The best absorbed form of selenium, and the one used by Dr. Clark's research, is high-selenium yeast" [75]. A study using 247 mcg/day of high-selenium yeast found that plasma selenium levels were 2-fold higher than baseline values after 3 and 9 months and returned to 136% of baseline after 12 months, whereas there was a 32% increase in blood glutathione levels also seen after 9 months [29]. Food selenium is about twice as well retained as non-food forms [29,38]. Research suggests that Food selenium is 2.26 times more retained in the liver and 1.22 times more absorbed in the blood than sodium selenite [44]. An in vitro study found that Food selenium had 17.6 times the antioxidant effect than did selenomethionine [44]. One study found that Food selenium was 123.01 times more effective than sodium selenite in preventing nonenzymatic glycation in diabetics [50].

Silicon

"In animals, silicon is found both free and bound" [9]. Silicon absorption is quite dependent upon the form [9]. Silicon is involved in bone calcification and connective tissue formation [9]. It is also needed for healthy hair and skin [51]. Silicon is found in foods in an organic form.

Trace Minerals

Trace minerals, including "ultra trace minerals" are necessary for the proper functioning of human health [9,51]. There are many in the human body, some of which are known to be essential and others of which are under investigation for "essentialness." Sea vegetables and certain yeasts are a good source of trace minerals [11,31,61].

Vanadium

"Vanadate forms compounds with other biological substances" [9]. "Vanadium has been postulated to play a role in the regulation of (NaK)-ATPase, phosphoryl transferase enzymes, adenylate cyclase, and protein kinases; as an enzyme cofactor in the form of vandyl and in hormone, glucose, lipid, and tooth metabolism" [9]. Vanadium in foods is found in an organic form. Vanadium in food is safer than non-food forms and also appears to be about 50% more effective [39].

Zinc

Most researchers acknowledge that organic zinc is better absorbed than inorganic zinc [71]. Zinc itself is generally found in the human body in ionic form [71,76]; it is often bound with albumin [23,76] or alpha2-macroglobulin [23] or exists as part of one of the many zinc metalloenzymes [23,76]. Zinc is predominantly found in foods as zinc peptide complex (such as that complexed with superoxide dismutase). Zinc is not naturally found in the body as zinc gluconate, zinc orotate, zinc sulfate, nor zinc picolinate. In humans "zinc deficiency does not exist without deficiency of other nutrients" [76]. Zinc deficiency in humans can cause alopecia, impotence, skin problems, immune deficiencies, night blindness, impaired taste, delayed wound healing, impaired appetite, photophobia, difficulty in dark adaptation, growth retardation, and male infertility [23]. Zinc in yeast-containing foods is better absorbed and is a better form for humans than inorganic forms [40,41]. Studies indicate that Food zinc appears to be 1.72-1.75 times more absorbed in the blood than zinc sulfate (1.71 times more than zinc chelate; 6.46 times more than zinc gluconate; 3.11 times more than zinc orotate) and 1.75-1.87 times more retained in the liver than zinc sulfate (1.45 times more than zinc amino acid chelate; 3.68 times more than zinc gluconate; 1.50 times more than zinc orotate) [45,46,51].

Food and Food Processing

"In the historic struggle for food, humans ate primarily whole foods or so-called natural foods, which underwent little processing...The nutrient content of food usually decreases when it is processed" [77]. "Intensive animal rearing, manipulation of crop production and food processing have altered the qualitative and quantitative balance of nutrients of food consumed by Western society. This change, to which the physiology and biochemistry of man may not be presently adapted is thought to be responsible for the chronic diseases that are rampant in the Industrialized Western Countries" [78]. Some reports suggest that simply taking a synthetic multi-vitamin/mineral formula does not change this [79,80].

Commercial food processing definitely reduces the nutrient content of food [81, 82] and can be dangerous to human health [83]. The refining of whole grains (including wheat, rice, and corn) has resulted in a dramatic reduction of their natural food complex nutrition [11,82]; specifically the milling of wheat to white flour reduces the natural food complex vitamin and mineral content by

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40-60% [82]. Food refining appears to reduce trace minerals such as manganese, zinc, and chromium [2] and various macrominerals (such as magnesium) as well [10,56]. The treatment of canned or frozen vegetables with ethylenediaminetetraacetic acid (EDTA) can strip much of the zinc from foods [11]. The high incidences of disorders of calcium metabolism [28] suggest that the forms of calcium being consumed simply do not agree with the body (and sometimes result in calcium loss [11]).

Organically-grown produce appears to contain higher levels of some essential minerals than does conventionally (non-organically) grown produce [84,85] and appears to contain lower levels of toxic heavy metals [86]. Even if modern food practices did not affect nutrition (which they do), all minerals that humans need for optimal health do not exist uniformly in soils. "Soils in many areas of the world are deficient in certain minerals; this can result in low concentrations of major or trace minerals in drinking water, plant crops, and even tissues of farm animals, thus contributing to marginal or deficient dietary intakes of humans [76]. From a geological perspective, a few examples include iodine, molybdenum, cobalt, selenium, and boron [2,70,77]. Although humans need at least twenty minerals (over sixty have been found in the body), most plants can be grown with only the addition of nitrogen, phosphorus, and potassium compounds [2]. If other minerals necessary for human health are reduced in the soil, the plant can (and will) grow without them. This means, though, that constantly farming the same ground can result in the reduction of some of the essential minerals we as humans require for optimal health [78].

Ground Up Rocks Pose Risks

Rock minerals are not optimal for human health and post health risks. Perhaps it should be mentioned that typical multivitamin-mineral formulas are dangerous and do not result in optimal health. A study involving 38,772 women in the USA who took synthetic multi-vitamins with ground up rock minerals found that the women died earlier than those who did not take them [87]. Other studies have concluded that the acid-processed rocks that many take as calcium supplements increase risk of cardiovascular disease and other problems [88]—yet those studies did not find problems with food calcium.

Ground-up rocks are dangerous for humans to ingest. Yet, real foods and 100% food vitamins and minerals are beneficial as well as essential to human health and longevity.

Conclusion

No matter how many industrially produced mineral supplements one takes orally, they will:

- 1) Never be a truly complete nutrient source.
- 2) Never replace all the functions of food minerals.
- 3) Always be unnatural substances to the body.
- 4) Always strain the body by requiring that it detoxify or somehow dispose of their unnatural structures/chemicals.
- 5) Never be utilized, absorbed, and retained the same as food nutrients.
- 6) Not be able to prevent advanced protein glycation end-product formation the same as food nutrients.
- 7) Never be able to have the antioxidant effects the same as food nutrients.
- 8) Always be industrial products.
- 9) Always be composed of petroleum-derivatives, hydrogenated sugars, acids, and/or industrially-processed rocks.
- 10) Never build optimal health the same as food nutrients.

Industrially processed minerals can have some positive nutritional effects, yet they are not food for humans. Unlike humans, plants have roots or hyphae which aid in the absorption of minerals. Plants actually have the ability to decrease the toxicity of compounds by changing their biochemical forms [14]. Plants are naturally intended to ingest rocks; humans are not [1].

The truth is that plants, or supplements only made from plants, are the best form of mineral supplement for humans, yet most people who take nutritional mineral support consume some type of industrially processed rock.

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The Truth About Vitamins in Nutritional Supplements

Abstract: Even though natural health professionals agree that humans should not try to consume petroleum derivatives or hydrogenated sugars, most seem to overlook this fact when vitamin supplementation is involved. This paper explains some of the biochemical reasons that food vitamins are superior for humans. It also explains what substances are commonly used to make vitamins in supplements. Furthermore, it explains some of the advantages of food vitamins over the non-food vitamins that are commonly available.

Introduction

For decades the 'natural' health industry has been touting thousands of vitamin supplements. The truth is that most vitamins in supplements are made of or processed with petroleum derivatives or hydrogenated sugars [1-5], hence they are synthetic. Even though they are often called natural, most non-food vitamins are isolated substances which are crystalline in structure [1]. Vitamins naturally in food are not crystalline and never isolated. Non-food vitamins are isolates, which means that they are individual chemicals lacking substances that real foods contain. Vitamins found in any real food are chemically and structurally different from those commonly found in 'natural vitamin' formulas. Food vitamins contain a matrix of substances which improve bioavailability and safety. Since they are different, naturally-oriented people should consider non-food vitamins as vitamin analogues (imitations) and not actually vitamins. Whether sold retail or wholesale, nearly all companies sell synthetic vitamins.

The standards of naturopathy agreed to in 1947 (at the Golden Jubilee Congress) included the statements, "Naturopathy does not make use of synthetic or inorganic vitamins...Naturopathy makes use of the healing properties of...natural foods, organic vitamins" [5]. Even back in the 1940s, professionals interested in natural health recognized the value of food, over non-food, vitamins. Also, it should be mentioned that naturopathic definition of organic back then was similar to the official US government definition today—why does this need to be stated? Because one pseudo-naturopath once told this researcher that a particular brand of synthetic vitamins contained "organic vitamins," because a sales representative had told him so. Sadly, that sales representative either intentionally gave out false information or gave out misleading information—misleading because by its 'scientific' definition, the term 'organic' can mean that it is a carbon containing substance. By that definition all petroleum derivatives (hydro-carbons) are organic. This is false, because those type of vitamins are not organic from the true naturopathic, or even the U.S. government's, perspective.

Officially, according to mainstream science, "Vitamins are organic substances that are essential in small amounts for the health, growth, reproduction, and maintenance of one or more animal species, which must be included in the diet since they cannot be synthesized at all or in sufficient quantity in the body. Each vitamin performs a specific function; hence one cannot replace another. Vitamins originate primarily in plant tissues" [6]. Isolated non-food 'vitamins' (often called 'natural' or USP or pharmaceutical grade) are not naturally "included in the diet", do not necessarily "originate primarily in plant tissues", and cannot fully replace all natural vitamin activities. As a natural health professional, you should be able to read and interpret, even misleading supplement labels. For those who are unsure, hopefully this article will provide sufficient information to determine if vitamin tablets are food or imitations.

What is Your Vitamin Really?

Most vitamins in supplements are petroleum extracts, coal tar derivatives, and chemically processed sugar (plus sometimes industrially processed fish oils), with other acids and industrial chemicals (such as formaldehyde) used to process them [1-5]. Synthetic vitamins were originally developed because they cost less [7]. Assuming the non-food product does not contain fish oils, most synthetic, petroleum-derived, supplements will call their products 'vegetarian', not because they are from plants, but because they are not from animals. Most USP 'vitamins' are chemical analogues of vitamins, meaning that they are in a chemical form that some scientists say is similar to the forms found in nature. Analogues are NOT the real thing.

Table 1. Composition of Food and Non-Food Vitamins [1-10]

Vitamin Vitamin A/Betacarotene Vitamin B-1	Food Nutrient* Carrots Nutritional yeast, rice bran	Natural' Vitamin Analogue & Some Process Chemicals Methanol, benzene, petroleum esters; acetylene; refined oils Coal tar derivatives, hydrochloric acid; acetonitrole with	
		ammonia	
Vitamin B-2	Nutritional yeast, rice bran	Synthetically produced with 2N acetic acid	
Vitamin B-3	Nutritional yeast, rice bran	Coal tar derivatives, 3-cyanopyridine; ammonia and acid	
Vitamin B-5	Nutritional yeast, rice bran	Condensing isobutyraldehyde with formaldehyde	
Vitamin B-6	Nutritional yeast, rice bran	Petroleum ester & hydrochloric acid with formaldehyde	
Vitamin B-8	Nutritional yeast, rice bran	Phytin hydrolyzed with calcium hydroxide and sulfuric acid	
Vitamin B-9	Nutritional yeast, rice bran	Processed with petroleum derivatives and acids; acetylene	

REFERENCE GUIDE

Vitamin B-12
Vitamin 'B-x' PABA
Choline
Vitamin C
Vitamin D
Vitamin D
Vitamin E

Nutritional yeast
Nutritional yeast, rice bran
Acerola cherries, citrus fruits
Nutritional yeast, mushrooms
Nutritional yeast, vegetable oils

Vitamin H Nutritional yeast, rice bran

Vitamin K Alfalfa

Cobalamins reacted with cyanide

Coal tar oxidized with nitric acid (from ammonia) Ethylene and ammonia with HCL or tartaric acid Hydrogenated sugar processed with acetone

Irradiated animal fat/cattle brains or solvently extracted Trimethylhydroquinone with isophytol; refined oils

Biosynthetically produced

Coal tar derivative; produced with p-allelic-nickel

Read The Label to See the Chemical Differences!

Although many doctors have been taught that food and non-food vitamins have the same chemical composition, this is simply untrue for most vitamins. As shown in table 2, the chemical forms of food and synthetic nutrients are normally different. Health professionals need to understand that there is no mandated definition of the term 'natural' when it comes to vitamin; just seeing that term on a label does not mean that the supplement contains only natural food substances. One of the best ways to tell whether or not a vitamin supplement contains natural vitamins as found in food is to know the chemical differences between food and non-food vitamins (sometimes called USP vitamins). Because they are not normally in the same chemical form as vitamins found in foods, non-food vitamins should be considered by natural health professionals as vitamin analogues (artificial imitations), and not actually as true vitamins for humans.

Table 2. Chemical Form of Food and Non-Food Vitamins [1-10]

Primary Chemical Vitamin Form in Food

Vitamin A/Betacarotene; retinyl esters; mixed carotenoids

Vitamin B-1; thiamin pyrophosphate (food) Vitamin B-2; riboflavin, multiple forms (food)

Vitamin B-3; niacinamide (food) Vitamin B-5; pantothenate (food) Vitamin B-6; 5'0 (beta-D) pyridoxine

Vitamin B-9; folate

Vitamin B-12; methylcobalamin; deoxyadenosylcobalamin

Choline (food); phosphatidyl choline (food) Vitamin C; ascorbate (food); dehydroascorbate

Vitamin D; mixed forms, primarily D3 (food)

Vitamin E; RRR-alpha-tocopherol (food)

Vitamin H; biotin

Vitamin K; phylloquinone (food)

Vitamin Analogue Chemical Form (Often Called Natural*)

Vitamin A acetate; vitamin A palmitate; betacarotene (isolated)

Thiamin mononitrate; thiamin hydrochloride; thiamin HCL

Riboflavin (isolated); USP vitamin B2 Niacin (isolated); niacinamide (isolated)

Pantothenic acid; calcium pantothenate; panthenol

Pyridoxine hydrochloride; pyridoxine HCL

Folic acid

Cyanocobalamin; hydroxycobalamin Choline chloride; choline bitartrate Ascorbic acid; most mineral ascorbates

(i.e. sodium ascorbate)

Vitamin D1 (isolated); Vitamin D2 (isolated);

Vitamin D3 (isolated); Vitamin D4; ergosterol (isolated);

cholecalciferol (isolated); lumisterol

Vitamin E acetate; Mixed tocopherols; all-rac-alphatocopherol; d-l--alpha-tocopherol; d-alpha-tocopherol (isolated); dl-alpha-tocopheryl acetate; all acetate forms

All non-yeast or non-rice vegetarian biotin forms

Vitamin K3; menadione; phytonadione; naphthoquinone;

dihydro-vitamin K1

Read the label of any supplement to see if the product is truly 100% food. If even one USP vitamin analogue is listed, then the entire product is probably not food (normally it will be less than 5% food). Vitamin analogues are cheap (or not so cheap) imitations of vitamins found in foods.

Beware of any supplement label that says that its vitamins are vegetarian and contain no yeast. This researcher is unaware of any frequently used vegetarian non-yeast way to produce vitamin D or many of the B vitamins, therefore, if a label states that the product "contains no yeast" then in pretty much all cases, this demonstrates that the product is synthetic or contains items so isolated that they should not be considered to be food.

^{*} Note: Some companies use liver extracts as a source for vitamins A and/or D, and at least one company has a herring oil product supplying some vitamin E. No company this researcher is aware of whose products are made out of 100% food use animal products in any of their multiple vitamins. Some companies also use brewer's yeast which is inferior to nutritional yeast in many ways (including the fact that it has not had the cell wall enzymatically processed to reduce possible sensitivities).

^{*} Note: This list is not complete and new analogues are being developed all the time. Also the term "(isolated)" means that if the word "food" is not near the name of the substance, it is probably an isolate (normally crystalline in structure) and is not the same as the true vitamin found in food.

Saccharomyces cerevisiae (the primary yeast used in baking and brewing) is beneficial to humans and can help combat various infections [11], including, according to the German E monograph, Candida albicans. In the text, Medical Mycology John Rippon (Ph.D., Mycology, University of Chicago) wrote, "There are over 500 known species of yeast, all distinctly different. And although the so-called bad yeasts do exist, the controversy in the natural foods industry regarding yeast related to health problems which is causing many health-conscious people to eliminate all yeast products from their diet is ridiculous. It should also be noted, that W. Crook, M.D., perhaps the nation's best known expert on Candida albicans, wrote, "yeasty foods don't encourage candida growth...Eating a yeast-containing food does not make candida organisms multiply" [12]. Some people, however, are allergic to the cell-wall of yeast [12] and concerned supplement companies which have nutrient-containing yeast normally have had the cell-wall enzymatically processed to reduce even this unlikely occurrence.

Food Vitamins are Superior to Non-Food Vitamins

Although many mainstream health professionals believe, "The body cannot tell whether a vitamin in the bloodstream came from an organically grown cantaloupe or from a chemist's laboratory" [13], this belief is quite misleading for several reasons. First it seems to assume that the process of getting the amount of the vitamin into the bloodstream is the same (which is frequently not the case [3-10]). Secondly, scientists understand that particle size is an important factor in nutrient absorption even though particle size is not detected by chemical assessment. Thirdly, scientists also understand that, "The food factors that influence the absorption of nutrients relate not only to the nature of the nutrients themselves, but also their interaction with each other and with the nonabsorbable components of food" [14]. Fourthly, "the physiochemical form of a nutrient is a major factor in bioavailability" (and food and non-food vitamins are not normally in the same form) [15]. Fifthly, most non-food vitamins are crystalline in structure [1].

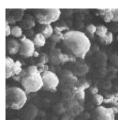
Published scientific research has concluded, "natural vitamins are nutritionally superior to synthetic ones" [8].

Food vitamins are in the physiochemical forms which the body recognizes, generally are not crystalline in structure, contain food factors that affect bioavailability, and appear to have smaller particle sizes (see illustrations in table 3). This does not mean that non-food vitamins do not have any value (they clearly do), but it is important to understand that natural food complex vitamins have actually been shown to be better than isolated, non-food, vitamins (see table 4).

Electronic photos demonstrate that isolated USP vitamins have a crystalline appearance compared to vitamins in foods which have more of a rounded appearance (see table 3). Natural Foods are produced as a result of living biological processes and nutrients in them appear to be contained in rounded Food components. USP vitamins are the result of chemical processes which make them be, as well as appear, crystalline in form. The isolated crystallized chemical forms that USP vitamins are never happen in nature.

Table 3. Physical and Structural Differences

Electronic Photographs



Food Vitamin B-1



USP Vitamin B-1



Food Vitamin C



USP Vitamin C

Even before these types of pictures were available, the late Dr. Royal Lee knew that food vitamin C was superior to ascorbic acid. "Dr. Lee felt it was not honest to use the name 'vitamin C' for ascorbic acid. That term 'should be reserved for the vitamin C COMPLEX" [16]. Why then, according to the ingredients listed in a recent catalog, would a supplement company that Dr. Lee originally founded currently include ascorbic acid, inorganic mineral salts, and/or other isolated nutrients in the majority of its products? Dr. Lee, like the late Dr. Bernard Jensen [17], was also opposed to the use of other isolated, synthetic, nutrients [16].

Dr Lee specifically wrote, "In fact, the Food & Drug laws seem to be suspended where synthetic imitations of good foods are concerned, and actually perverted to prosecute makers and sellers of real products...The synthetic product is always a simple chemical substance, while the natural is a complex mixture of related and similar materials...Pure natural Vitamin E was found three times as potent as pure synthetic Vitamin E. Of course the poisonous nature of the synthetic Vitamin D...is well established. WHY DO NOT THE PEOPLE AND MEDICAL MEN KNOW THESE FACTS? Is it because the commercial promoters of cheap imitation food and drug products spend enough money to stop the leaking out of information?" [18].

Food vitamins are superior. The human body is not intended to ultiize unnatural, synthethic, crystalline 'vitamins'.

Food Vitamin

Table 4. Comparison of Certain Biological Effects of Food and Non-Food Vitamins

Compared to USP/'Natural'/Non-Food Vitamins

Vitamin A 54% more absorbed into the blood [19]; also more complete,

as scientists teach that vitamin A is not an isolate [20]

Vitamin B Complex More effective in maintaining good health and liver function [21,22]

Vitamin B-1, Thiamin 38% more absorbed into the blood [19]
Vitamin B-2, Riboflavin 92% more retained in the liver [19]

Vitamin B-3, Niacinamide
3.94 times more absorbed into the blood [19]
Vitamin B-5, Pantothenate
57% more absorbed into the blood [19].
Vitamin B-6
2.54 times more absorbed into the blood [19].

Vitamin B-9, Folate

2.13 times more retained in the liver; more utilizable above 266mcg
(Recommended Daily Intake is 400mcg) [23] and safer [24].

Vitamin B-12 2.56 times more absorbed into the blood [19]

Vitamin C Over 15.6 times antioxidant effect [25]; 74% better absorbed into

red blood cells [19]

Vitamin D Over 10 times the antirachitic effect [26]

Vitamin E Up to 4.0 times the free radical scavenging strength [27]

Vitamin H Up to 100 times more biotin effect [1]

Vitamin K Safer for children [28]

The difference is more than quantitative.

Let's take vitamin C for an example. Even if one were to take 3.2 times as much of the so-called natural, non-food, ascorbic acid as food vitamin C, although the antioxidant effects might be similar in vitro, the ascorbic acid still will not contain DHAA [1], nor will it ever have negative oxidative reductive potential (ORP). An in vitro study performed at this researcher's lab with a digital ORP meter demonstrated that a citrus food vitamin C has negative ORP, but that ascorbic acid had positive ORP [29].

It takes negative ORP to clean up oxidative damage [30], and since ascorbic acid has positive ORP (as well as positive redox potential [1]), it can never replace food vitamin C no matter what the quantity! Furthermore, foods which are high in vitamin C tend to have high Oxygen Radical Absorbance Capacity (ORAC, another test which measures the ability of foods and other compounds to subdue oxygen free radicals [25]). A US government study which compared the in vivo effects of a high vitamin C food (containing 80 mg of vitamin C) compared to about 15.6 times as much isolated ascorbic acid (1250 mg) found that the vitamin C-containing food produced the greatest increase in blood antioxidant levels (it is believed that bioflavonoids and other food factors are responsible) [25].

Furthermore, it is even possible isolated ascorbic acid only has in vitro and no in vivo antioxidant effects: "it has not been possible to show conclusively that higher than anti-scorbic intake of {SYNTHETIC} vitamin C has antioxidant clinical benefit" [31]. Why should people take supplemental synthetic ascorbic acid when it has NOT been proven to have significant antioxidant effects in humans?

"Cross sectional and longitudinal studies show that the occurrence of cardiovascular disease and cancer is inversely related to vitamin C intake...the protective effects seen in these studies are attributable to fruit and vegetable {FOOD} intake...In general, beneficial effects of supplemental {SYNTHETIC} vitamin C have been noted in small studies, while large well controlled studies have failed to show benefit" [31]. The other quantitative is that in humans, "Plasma is completely saturated in doses of 400 mg and higher daily producing a steady-state plasma concentration of 80 mM...Tissues, however, saturate before plasma" [31]. De-emphasizing vitamin C containing foods by attempting to consume higher quantities of isolated ascorbic acid simply will not have the effects on plasma vitamin C levels, ORP, ORAC, or other health aspects that many consumers of isolated ascorbic acid hope it will [3,29,31].

No matter how much isolated ascorbic acid one takes orally

- 1) It will never saturate plasma and/or tissue vitamin C levels significantly more than can be obtained by consuming sufficient vitamin C containing foods.
- 2) It will never have negative ORP, thus can never 'clean-up' oxidative damage like food vitamin C can.
- 3) It will never have the free radical fighting capacity of food vitamin C.
- 4) It will never contain DHAA (the other 'half' of vitamin C) or the promoting food factors.
- 5) It will never have the same effect on health issues, such as aging and cardiovascular disease as high vitamin C foods can.
- 6) It will not ever be utilized the way food vitamin C is.
- 7) It will always be a synthetic.

Let's take vitamin E as another example—the body has a specific liver transport for the type of vitamin E found in food [10]—it does not have this for the synthetic vitamin E forms (nor for the 'new' vitamin E analogues that are frequently marketed)—thus no amount of synthetic vitamin E can truly equal food vitamin E—the human body actually tries to rid itself of synthetic vitamin E as quickly as possible [32]. As another example, it should be understood that certain forms of vitamin analogues of B-6 [19], D [10], and biotin [1] have been shown to have almost no vitamin activity.

Fractionated, synthetic, vitamins do not replace all the natural function of food vitamins in the body. This is due to the fact that

they are normally chemically and structurally different from vitamins found in foods (or vitamin supplements made up entirely of foods). They also do not have the naturally occurring food factors which are needed by the body.

Food Vitamins and Non-Food Vitamin Analogues

Vitamin A/Betacarotene

Vitamin A naturally exists in foods, but not as a single compound. Vitamin A primarily exists in the form of retinyl esters, and not retinol and beta carotene is always in the presence of mixed carotenoids with chlorophyll [10]. Vitamin A acetate is from methanol, it is a retinol which is crystalline in structure [1]. Vitamin A palmitate can be fish oil [1] or synthetically derived [2]; but once isolated it bears little resemblance to food and can be crystalline in structure [1,2]. Synthetic betacarotene is "prepared from condensing aldehyde (from acetone) with acetylene" [2]; "not much natural beta-carotene is available due to the high costs of production" [2].

"Beta-carotene has been found to have antioxidant effect in vitro...Whether {ISOLATED} beta-carotene has significant antioxidant effect in vivo is unclear" [33]. Carrots, a food high in betacarotene, do have high antioxidant ability [33,34]. Natural betacarotene, as found in foods, is composed of both all-trans and 9-cis isomers, while synthetic betacarotene is all-trans isomers [35]. Carrots, yellow and green leafy vegetables, and turmeric contain natural betacarotene along with multiple carotenoids. Natural betacarotene was found to significantly decrease serum conjugated diene levels for children exposed to high levels of irradiation, though it is not known if synthetic betacarotene would provide similar benefits [35].

Regarding isolated betacarotene, "The data presented provide convincing evidence of the harmful properties of this compound if given alone to smokers, or to individuals exposed to environmental carcinogens, as a micronutrient supplement" [36]. "The three beta-carotene intervention trials: the Beta Carotene and Retinol Efficacy Trial (CARET), Alpha-Tocopherol, Beta-Carotene Cancer Prevention Study (ATBC), and Physician's Health Study (PHS) have all pointed to a lack of effect of synthetic beta-carotene in decreasing cardiovascular disease or cancer risk in well-nourished populations. The potential contribution of beta-carotene supplementation to increased risk of lung cancer in smokers has been raised as a significant concern. The safety of synthetic beta-carotene supplements and the role of isomeric forms of beta-carotene (synthetic all-trans versus "natural" cis-trans isomeric mixtures)... have become topics of debate in the scientific and medical communities" [37]. Now, although the consumption of both synthetic betacarotene and food betacarotene raise serum vitamin A levels about the same, this obscures the fact that synthetic betacarotene tends to mainly increase serums all-trans betacarotene, while food betacarotene increases other forms as well [38].

It is possible that synthetic betacarotene can negatively affect vitamin E's antioxidant ability as a clinical study found, "These results support earlier findings for the protective effect of a-tocopherol against LDL oxidation, and suggest that beta-carotene participates as a prooxidant in the oxidative degradation of LDL under these conditions. Since high levels of alpha-tocopherol did not mitigate the prooxidative effect of beta-carotene, these results indicate that increased LDL beta-carotene may cancel the protective qualities of alpha-tocopherol" [39]. In a consumer-directed publication, Stephen Sinatra (M.D.) observes, "Research has shown that high doses of synthetic beta-carotene—the kind found in many popular brands—may actually increase your risk for lung cancer. Because at high levels it can become prooxidative—exactly the opposite of what you want…!'ve seen harmful effects (such as serious vision loss) in people who have taken up to 80,000 IU of beta-carotene per day. The bottom line is: Less is more when it comes to beta-carotene. To be safe I recommend between 12,500 and 25,000 IU of beta-carotene per day from food sources such as carrots" [40].

In my opinion, betacarotene in carrots, however, is safer than even Dr. Sinatra suggests (there is about 12,000 i.u. of betacarotene in one raw carrot). The reason for this is because betacarotene in carrots is attached to lipoproteins which appear to aid in preventing toxicity. Isolated USP betacarotene, even if it allegedly comes from "natural" sources, simply does not have the attached lipoproteins or other potentially protective substances as found in foods like carrots.

While isolated synthesized vitamin A and polar bear livers have posed toxicity issues, this is simply not considered to be the case of any other food that is supplying vitamin A/beta-carotene [41,42]. An animal study concluded that Food vitamin A is probably less toxic than USP isolated form and was 1.54 times more absorbed into the blood [19]. Foods containing vitamin A and/or beta carotene are superior [8].

Vitamin B-1, Thiamin

Vitamin B-1 exists in food in the forms of thiamin pyrophosphate, thiamin monophosphate, and thiamin [10]. The non-food thiamin mononitrate is a coal tar derivative [4], never naturally found in the body [10], and is a crystalline isolate [1] (the same is true for thiamin hydrochloride and other chloride forms). Synthetic forms are often used in "food fortification" (where processing removes the naturally occurring thiamin) as they are cheaper and, in that context more stable. However, they are inferior to naturally occurring thiamin forms [8,42]. "The nutritive value of straight-run white flour...has been found to be inferior to that of wholemeal flour, even when the defects of the former in protein, minerals and {SYNTHETIC} vitamin B1 have been corrected" [43]. An animal study found that Food vitamin B-1 was absorbed 1.38 times more into the blood and was retained 1.27 times more in the liver than a USP isolate form [19].

Vitamin B-2, Riboflavin:

Naturally exists as riboflavin and various co-enzyme forms in food [10]. In non-foods it is most often synthetically made with 2N acetic acid, is a single form isolate, and is crystalline in structure [1]. Some synthetic riboflavin analogues have weak vitaminic activity [45]. Some natural variations, especially in coenzyme forms, occur in plants, including fungal, species [45]. An animal study found that Food vitamin B-2 was absorbed 1.49 times more into the blood and was retained 1.92 times more in the liver than a USP isolate form [19]. Various studies suggests that food riboflavin are superior to non-food forms [8,19, 42].

Vitamin 'B-3', Niacinamide

Primarily exists in foods in forms other than niacin [10]. "Niacin is a generic term...the two coenzymes that are the metabolically active forms of niacin (are)...nicotinamide adenine dinucleotide (NAD) and NAD phosphate (NADP)...Only small amounts of free forms of niacin occur in nature. Most of the niacin in food is present as a component of NAD and NADP...nicotinamide is more soluble in water, alcohol, and ether than nicotinic acid...many analogues of niacin have been synthesized, some of which have antivitamin activity "[10]. Niacinamide (also called nicotinamide) is considered to have less potential side-effects than niacin [10]; it also does not seem to cause gastrointestinal upset or hepatotoxicity that the synthetic time-released niacin cause [46]. Processing losses for this vitamin are mainly due to water leaching [47]. Isolated, non-food, niacinamide is normally from 3-cyanopyridine and can form crystals [1]. This non-food 'niacin' is synthesized from acetaldehyde through several chemical reactions often involving formalydehyde and ammonia [2,48]. Beef, legumes, cereal grains, yeast, and fish are significant natural food sources of vitamin B3 [46]. Animal studies suggest that Food niacinamide is 3.94 times more absorbed in the blood than USP niacinamide and 1.7 times more retained in the liver than a USP isolated niacinamide [19].

Vitamin 'B-5', Pantothenate

Naturally exists in foods as pantothenate [10]. "Pantothenate, usually in the form of CoA, performs multiple roles in cellular metabolism, being central to energy-yielding oxidation of glycolytic products and other metabolites through the mitochondrial tricarboxylic acid cycle...Synthesis of fatty-acids and membrane phospholipids, including regulatory sphingolipids requires pantothenate, and synthesis of the amino acids leucine, arginine, and methionine requires a pantothenate requiring step. CoA is required for synthesis of isoprenoid derivatives, such as cholesterol, steroid hormones, dolichol, vitamin A, vitamin D, and heme A"[10]. "It also appears to be involved in the regulation of gene expression and signal transduction...may have antioxidant and radioprotective properties...It has putative anti-inflammatory, wound healing and antiviral activities...may be helpful in the management of some with rheumatoid arthritis...shown to accelerate wound healing" [33]. "Synthetic D-pantothenate...is available as a calcium or sodium salt" [10], and is sold in forms such as sodium D-pantothenate or calcium D-pantothenate or sometime just listed as pantothenic acid [33]. Other synthetic "multivitamin preparations commonly contain its...alcohol derivative, panthenol" [10]. "Dexopanthenol is a synthetic form which is not found naturally" [33]. USP pantothenic acid is made by condensing isobutyraldehyde with formaldehyde [2]. "Pantothenic acid consists of pantoic acid in amide linkage to beta-alanine", but vitamin B-5 is not found that way in nature [49]. Vitamin B-5 is found in food as pantothenate forms; foods do not naturally contain pantothenic acid [49]. The vegetarian foods which are highest in natural pantothenate are nutritional yeast, brown rice, peanuts, and broccoli [10,32,49]. Specifically, Saccharomyces cerevisiae is one of the best natural sources of food pantothenate [10,33]. Calcium pantothenate is a synthetic enantiomer [10] and is a calcium salt [1] and is crystalline [2]. An animal study indicated that Food pantothenate was 1.54% more absorbed into the blood than a USP form [19].

Vitamin B-6

Plants naturally primarily contain vitamin B6 in forms such as 5'0-(beta-D-glycopyransosyl) and other pyridoxines, not pyridoxal forms [10]. Pyridoxine hydrochloride is not naturally found in the body [10], is a crystalline isolate [1], and is generally made from petroleum and hydrochloric acid and processed with formaldehyde [4]. Pyridoxal-5-phosphate is made by combining phosphorus oxychloride and/or adenosine triphosphate with pyridoxal [1]; it becomes a crystalline isolate [1] and bears almost no resemblance to food vitamin B6. At least one synthetic vitamin B-6 analogue has been found to inhibit natural vitamin B-6 action [50,51]. A study of healthy elderly individuals found about 1/3 had marginal vitamin B-6 deficiency [34]. An animal study found that Food vitamin B-6 was absorbed 2.54 times more into the blood and was retained 1.56 times more in the liver than a USP isolate form [19].

Vitamin 'B-9', Folate

Folate was once known as vitamin B-9, as well as vitamin M. Initially food folate was given for people with a pregnancy-related anemia in the form of autolyzed yeast; later a synthetic USP isolate was developed [10]. Pteroylglutamic acid (folic acid), the common pharmacological (USP) form of folate is not found significantly as such in the body [10]. "Folic acid is a synthetic folate form" [52]. Folic acid, such as in most supplements, is not found in food, folates are [15]. Insufficient folate can result in fatigue, depression, confusion, anemia, reduced immune function, loss of intestinal villi, and an increase in infections [11]. Folate deficiency is the most important determinant in high homocysteine levels [11], and supplemental folate is effective in reducing homocysteine [53,54]. "The highest concentrations of folate exist in yeast...and brocolli" [10]. "(C)onsumption of more than 266 mcg of synthetic folic acid (PGA) results in absorption of unreduced PGA, which may interfere with folate

metabolism for a period of years" [10]. A 2004 paper from the British Medical Journal confirmed what many natural health professionals have known all along: since folic acid is unnatural and the body cannot fully convert large amounts of it into usable folate, this artificial substance can be absorbed and may have unknown negative consequences in the human body [22]—folate supplementation obviously should be in food folate forms and not folic acid. Folic acid is dangerous [24]. An animal study found that Food folate was absorbed 1.07 times more into the blood and was retained 2.13 times more in the liver than a USP isolated folic acid [19].

Vitamin B-12

The naturally active forms are methylcobalamin and deoxyadenosylcobalamin and are found in food [10]. Cyanocobalamin is not a naturally active form [10]; it is an isolate which is crystalline in structure [1]. Initially natural food complex vitamin B12 was given for people with pernicious anemia in the form of raw liver, but due to cost considerations a synthetic USP isolate was developed [7]. According to Dr. Victor Herbert (and others) vitamin B-12 when ingested in its human-active form is non-toxic, yet Dr. Herbert (and others) have warned that "the efficacy and safety of the vitamin B12 analogues created by nutrient-nutrient interaction in vitamin-mineral supplements is unknown" [54]. Some synthetic vitamin B12 analogues seem to be antagonistic to vitamin B12 activity in the body [55,56]. Most synthetic B-12 is made through a fermentation process with the addition of cyanide [4]. An animal study found that Food vitamin B-12 was absorbed 2.56 times more into the blood and was retained 1.59 times more in the liver than a USP isolated form [19].

Vitamin B-x, Vitamin B-8, Vitamin B factors like Choline

PABA was once called vitamin B-x, while inositol was once called vitamin B-8. They and choline are considered to be vitamin B co-factors, as well as lipotrophic factors.

In large doses, PABA is "indicated for Peyronie's disease, scleroderma, morphea and linear scleroderma" [11]. The non-food version of PABA is made from coal tar [2]. In addition, there is a non-food potassium salt synthetic form, called aminobenzoate potassium [11]. PABA is found in foods such as kidney, liver, molasses, fungal foods, spinach, and whole grains [57].

The non-food version of inositol is made from phytin processed with sulfuric acid [2]. Inositol is a lipotrophic factor, and is also necessary for hair growth; some use it for mood issues. While nutritional yeast is probably the best source of inositol, it is also found in fruits, lecithin, legumes, meats, milk, unrefined molasses, raisins, vegetables, and whole grains [57].

Choline bitartrate and choline chloride, the types most often encountered in allegedly "natural" vitamin supplements, are actually "commercial salts" [11]—they are synthetic forms. Ethylene is involved in the production of one or more of the synthetic forms [2].

Phosphatidyl-choline is the major delivery form of choline, and is naturally found in many foods such as beef liver, egg yolks, and soya [11]. Specially grown nutritional yeast appears to be the best food form for choline supplements.

Vitamin C

Vitamin C naturally occurs in fruits in at least two biologically-active ascorbate forms with bioflavonoids [10]. Non-food, so-called 'natural' ascorbic acid is made by fermenting corn sugar into sorbitol, then hydrogenating it until it turns into sorbose, then acetone (commonly referred to as nail polish remover) is added to break the molecular bonds which creates isolated, crystalline, ascorbic acid. It does not contain both vitamin C forms (nor bioflavonoids), thus is too incomplete to properly be called vitamin C [2]. The patented 'vitamin C' compounds that are touted as less acidic than ascorbic acid also are not food (it is not possible to get a US patent on naturally occurring vitamins as found in food--anytime a health professional hears that some vitamin is patented, that should set off warning signals that it is not real food). An in vitro study found that food complex vitamin C has negative ORP (oxidative reductive potential) [27], yet the Merck Index shows that so-called 'natural' ascorbic acid has positive ORP [1] (negative ORP is much better as it helps 'clean up' oxidative damage whereas items with positive ORP do not) [58]. Food complex vitamin C is also 10x less acidic than ascorbic acid.

Some of the many functions that vitamin C is involved in include collagen formation, carnitine biosynthesis, neurotransmitter synthesis, enhancement of iron absorption, immunocompetence, antioxidant defense, possible anticarcenogenic effects, protection of folate and vitamin E from oxidation, and cholesterol catabolism [1].

One study found that the then Food vitamin C had 492 micro moles per gram T.E. (Trolox equivalents) of hydrophilic ORAC (oxygen radical absorbance capacity) [59]—ORAC is essentially a measurement of the ability to quench free radicals (antioxidant ability)—while blueberries (one of the highest ORAC sources [25]) only had 195 micro moles per gram T.E. [59]—thus food vitamin C has 2.52 times the ORAC ability of blueberries. Vitamin C containing food has over 15.6 times the ORAC of isolated ascorbic acid [25] (food complex vitamin C is even higher). Actually, there are doubts that isolated ascorbic acid has any significant antioxidant effects in humans [31]. Food vitamin C is clearly superior for any interested in ORAC.

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Although food vitamin C is superior to isolated ascorbic acid [8], at least one mainstream researcher has written, "The bioavailability of vitamin C in food and 'natural form' supplements is not significantly different from that of pure synthetic AA" [10] this is simply not true. As "proof" that particular author cites two papers. The first citation is a study that concludes since serum ascorbic acid levels were at similar levels after various vitamin C containing foods and synthetic ascorbic acid were consumed, that the bioavailability is similar [60]. The conclusions reached seem to ignore that fact that it may be possible that DHAA or other food constituents associated with natural vitamin C may have positive effects other than raising serum ascorbate levels. The second citation is a study that probably should not have been cited as it never compared vitamin C as complexed in food versus synthetic ascorbic acid (it compared synthetic ascorbic acid to Ester-C which is a commercial blend of synthetic ascorbic acid and select metabolites as well as to synthetic ascorbic acid mixed with some bioflavonoids) [61]. Hence, those who claim that there is no difference really do not have strong scientific proof for their contrary opinion.

A human study found that Food vitamin C was absorbed 1.74 times more into red blood cells than a USP isolated ascorbic acid [62]. Yet another human study found that Food vitamin C is absorbed 1.35 times more than plain ascorbic acid [63]. An animal study found that after one month of feeding, Food vitamin C caused a significant reduction of 77%, 66%, and 40% in plasma total cholesterol, LDL + VLDL, and triglycerides respectively and that USP ascorbic acid or bioflavonoids alone were ineffective (though ascorbate did raise HDL); this same study also found that Food vitamin C strongly inhibited atherosclerosis [64]. Spectral Data Services (a nuclear magnetic testing facility) has concluded, regarding Food vitamin C, "the materials have undergone a physical chemical change, they are not a simple mixture" [65]. Various scientific investigations have demonstrated that food vitamin C is superior to isolated ascorbic acid.

Vitamin D

The history of synthetic vitamin D is a shocking one. "The first vitamin isolated was a photoproduct from the irradiation of the fungal sterol ergosterol. This vitamin was known as D1...vitamin D obtained from irradiation of ergosterol had little antirachitic activity" [66]--in other words, the first synthetic vitamin D did not act the same as natural vitamin D. "At the time of its identification, it was assumed that the vitamin D made in the skin during exposure to sunlight was vitamin D2", but it was later learned that human skin produced something called vitamin D3 [60]. It was first believed that provitamin D3 was directly converted to vitamin D3, but that was incorrect. The skin actually contains a substance commonly called provitamin D3; after exposure to sunlight previtamin D3 is produced and it begins to isomerize into vitamin D2 in a process which is temperature dependent, with isomerized vitamin D3 being jettisoned from the plasma membrane into extracellular space. Vitamin D2 was used to fortify milk in the US and Canada for about forty years until it was learned that D3 was the substance which had better antirachitic activity, so D3 has been used for the past twenty-five years [66]. But vitamin D has many benefits which are unrelated to rickets: B and T lymphocytes have been shown to have receptors for vitamin D similar to those found in the intestines, vitamin D seems to affect phagocytosis, and may even have some antiproliferation effect for tumor cells [66]. It has not been proven that any single USP isolated form of vitamin D has all the benefits as natural occurring forms of vitamin D. (Also, since the vitamin D was not particularly stable, manufacturers used to put in 1.5 to 2 times as much of synthetic vitamin D as they claimed on the product labels. This led to neonatal problems and hypercalcemia. [66].) One older report found that "natural vitamin D is about 100 times more potent in protecting chickens and children from rickets than...irradiated ergosterol" [67], USP vitamin D2. Vegetarian sources of vitamin D include shitake mushrooms and specially grown nutritional

New vitamin D analogues are still being developed: some which may have greater affects on calcium utilization [69], some even may be helpful for breast cancer [69]—but these really may be pharmacological, and not naturopathic, applications since these analogues are not food. In view of the historical errors in the supplementation with forms of vitamin D, it is reasonable to conclude that additional benefits of natural source vitamin D may be discovered, further distinguishing it from synthetic isolates.

Vitamin D is not an isolate. It exists as a combination of substances (including vitamin D3), with promoting metabolites [10]. Non-food vitamin analogues D1, D2, D3, and D4 are isolates without the promoting metabolites. USP D1 does not have appreciable antirachitic effects [10], is crystalline, and is made with benzene [1]. USP D2 is considered a synthetic form and is made by bombarding ergosterol with electrons [1] and is "recovered by solvent extraction" [2]. USP D3 and D4 are both made through irradiating animal fat [1,10] or through irradiating "the spinal cords and brains of cattle" [2]. Scientists are even developing a 'new' form of vitamin D (which is admitted to be an analogue) which is supposed to be helpful for osteoporosis [70]. Natural vitamins cannot be invented! The fact that some drugs are chemically similar to vitamin D as found in foods, does not make them true vitamins. Food vitamin D has been reported to have at least 10 times the antirachitic effects than one or more isolated USP forms [71].

Vitamin E

Natural vitamin E "as found in foods is [d]-alpha tocopherol, whereas chemical synthesis produces a mixture of eight epimers" [72] (natural vitamin E has recently been renamed to be called RRR-alpha-tocopherol whereas the synthetic has now been renamed to all-rac-alpha-tocopherol, though supplement labels rarely make this clear; on supplement labels d-alpha-tocopherol is generally 'natural', whereas dl-alpha-tocopherol is synthetic [27]). Natural RRR-alpha-tocopherol has 1.7 - 4.0 times the free radical scavenging strength of the other tocopherols, RRR-alpha tocopherol has 3 times the biological activity of the alpha-tocotrienol form, and synthetic vitamin E simply does not have the same biologic activity of natural vitamin E.

Some synthetic forms have only 2% of the biological activity of RRR-alpha-tocopherol [27]. The biologic activity of vitamin E is based on its ability to reverse specific vitamin E-deficiency symptoms [27], therefore it is a scientific fact that, overall, synthetic vitamin E has less ability to correct vitamin E deficiencies than food vitamin E. There is an interesting reason for this, which is that the body regulates plasma vitamin E through a specific liver alpha-tocopherol transfer protein, whereas it has no such protein for other vitamin E forms [27]. In other words, the liver produces a protein to handle vitamin E found in food, but not for the synthetic forms. The body retains natural vitamin E 2.7 times better than synthetic forms [32].

Even mainstream researchers teach, "Vitamin E is the exception to the paradigm that synthetic and natural vitamins are the equivalent because their molecular structures are identical...Synthetic vitamin E is produced by commercially coupling trimethylhydroquinone (TMHQ) with isophytol. This chemical reaction produces a difficult-to-separate mixture of eight isomers" [73] (vitamin E, of course, is not the only exception--all nutrients are better if they are Food). Isolated natural vitamin E has been found to have twice the bioavailability as synthetic vitamin E [74]. The form of vitamin E found in Food has been found to be 2.7 times better retained in the body than a synthetic form [28]—this appears to be because the body attempts to rid itself of synthetic forms as quickly as possible [28]. It is interesting to note that so-called "natural" forms (like succinate) do not even work like Food vitamin E—Even the PDR notes, "d-Alpha-Tocopherol succinate itself has no antioxidant activity" [33], so why would anyone want that for their vitamin E supplement?

Vitamin E is necessary for the optimal development and maintenance of the nervous system as well as skeletal muscle [73]. Vitamin E deficiency can lead to certain anemias, nutritional muscular dystrophy, reproductive problems, and hyperlipidemia [72]. Vitamin E has been shown to reduce the risk of various cancers, coronary heart disease, cataract formation, and even the effects of air pollution [27,73]. It also is believed it may slow the aging process and decrease exercise-induced oxidative stress [27,73]. Artificial fats seem to increase the need for vitamin E [75]. Vitamin E content is highest in vegetable oils, also relatively high in avocados (4.31 i.u. each) [76] and rice bran [77]. An animal liver study found that Food vitamin E is 2.6 times more retained than d-alpha tocopheryl acid succinate (which is the 'natural form' once it is isolated from its food complex) [19].

Natural vitamin E as predominantly found in foods is [d]-alpha tocopherol (also called RRR-alpha tocopherol) and is never found as an isolate [10]. The so-called 'natural' forms are most frequently in supplements as isolates, a way they are never found in nature

Both the chemical form and source of vitamin E may play a role as "chemically synthesized alpha-tocopherol is not identical to the naturally occurring form" [27]. Thus those who claim that a synthetic vitamin, even when it is in the same "chemical form" does not matter are wrong. Also as it is never in the same actual form due to the presence of food constituents, it is never as good as one in a natural, food form. The scientific facts about vitamins demonstrate FOOD vitamins are superior.

Vitamin 'H', Biotin

The only active form found in nature is d-(+) biotin and is usually protein bound [10]. Non-food biotin is normally an isolated, synthesized, crystalline form that is not protein bound [1]. Biotin I-sulfoxide is a lessor used isolated and/or non-food form, involves pimelic acid, is an isolate, and has less than 1% of the vitamin H activity of food biotin [1].

Vitamin K

Vitamin K naturally is found in plants as phylloquinone [10]. Non-food vitamin K3 menadione is now recognized as dangerous and is a synthetic naphthoquinone derivative (naphthalene is a coal tar derivative) [1]. USP K1, also called phylloquinone, is an isolate normally synthesized with p-allylic-nickel [1]. There is another form of vitamin K inadvertently formed during the hydrogenation of oils called dihydro-vitamin K1 [78]; however since the consumption of hydrogenated oils appears to be dangerous [79], it does not seem that this form would be indicated for most humans. Dark leafy vegetables, as well as cabbage [80], appear to be the primary food source of vitamin K [81].

Perhaps it should be mentioned that typical multiple vitamin formulas are dangerous and do not result in optimal health. A study involving 38,772 women in the USA who took synthetic multi-vitamins with ground up rock minerals found that the women died earlier than those who did not take them [82]. Synthetic vitamins are dangerous. Yet, 100% food vitamins and minerals are essential to human health and promote longevity.

Types of Available Vitamins

There are really only two types of vitamins sold: food vitamins and non-food vitamins. Food vitamins will normally state something like "100% Food" on the label. Sometimes the label will also state "No USP nutrients" or "No synthetic nutrients".

Non-food vitamins, however are somewhat less obvious. First of all, no non-food vitamin this researcher has seen says "100% food" on the label and none of them state 'No USP or synthetic nutrients." Thus if none of these expressions are present, it is normally safe to conclude that the vitamins are not from food. If a label states that the product contains USP vitamins or 'pharmaceutical grade' nutrients, then it should be obvious to all naturopathic practitioners that the product is not food. Also, if a multi-vitamin or a B-complex formula states something to the effect that it "contains no yeast" that is basically a guarantee that it contains synthetic nutrients.

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However, just because a company uses the term 'natural' or 'all natural' as a description of its vitamins does not make them, in fact, natural—this is because the US Government has no definition of natural and misapplies the term organic!

Notice the following (bolding in source below):

Some 'natural' products are anything but

Vitamin pills can be synthetically, and legally produced, produced in a lab. Synthetic ingredients are even allowed in multi-vitamins that bear the Department of Agriculture's "Organic" seal...

"Vitamins can be synthetic because, by definition, a vitamin does not have to come from nature," says Fabricant at the FDA. [83]

This is outrageous, and many have been misled. Real vitamins do come from nature and are contained in grown foods. It is terrible, but the reality is that the vast majority of vitamin pills are synthetic.

Also please understand, just because a company may have a reputation for having natural products (like one company that boasts about its farm and many others that use terms like natural), this does not mean its vitamins are not synthetic—carefully check the label for proof that the product is truly 100% food.

Some companies seem to confuse the issue by using the term 'food-based' on their supplement labels. 'Food-based' vitamins are almost always USP vitamins mixed with a small amount of food. This mixing does not change the chemical form of the vitamin, so it is still a vitamin analogue and not a food vitamin (this differs from food, as true food vitamins are not simple mixture).

Some other companies (that do not use the term 'food-based') mix foods with the vitamin analogue and seem to imply that the vitamin is a food. For example, if a label states something like Vitamin C (Vitamin C, acerola) then it is also normally a synthetic mixed with a food. If the product were a food, it would normally state that the vitamin C was in food or from acerola and not use the term 'vitamin C' twice in a row on the label (many companies mix ascorbic acid with acerola). At least one company that targets health professionals does this.

Many companies use the term 'yeast-free' on their synthetic vitamin labels, apparently implying that yeast should not be used in vitamins. There are a couple of problems with this. The first is that several non-food isolated vitamins are produced by yeast, before they are industrially processed and isolated, thus it is unlikely that any multiple vitamin formula has not been partially made up of yeast, yeast extracts, or yeast by-products [1,2]. The second problem is that nutritional yeast is not the same as brewer's yeast, which is essentially a waste by-product.

Conclusion

Most vitamins sold are not food—they are synthetically processed petroleum and/or hydrogenated sugar extracts—even if they say "natural" on the label. They are not in the same chemical form or structural form as real vitamins are in foods; thus they are not natural for the human body. True natural food vitamins are superior to synthetic ones [8,16,42]. Food vitamins are functionally superior to non-food vitamins as they tend to be preferentially absorbed and/or retained by the body. Isolated, non-food vitamins, even when not chemically different are only fractionated nutrients.

Studies cited throughout this paper suggest that the bioavailability of food vitamins is better than that of most isolated USP vitamins, that they may have better effects on maintaining aspects of human health beyond traditional vitamin deficiency syndromes, and at least some seem to be preferentially retained by the human body. It is not always clear if these advantages are due to the physiochemical form of the vitamin, with the other food constituents that are naturally found with them, or some combination. Regardless, it seems logical to conclude that for purposes of maintaining normal health, natural vitamins are superior to synthetic ones [8,16,42]. Unlike some synthetic vitamins, no natural vitamin has been found to not perform all of its natural functions.

The truth is that only foods, or supplements composed of 100% foods, can be counted on as not containing non-food vitamin analogues. Natural health advocates are supposed to build health on foods or nutrients contained in foods. That was the standard set for the profession in 1947. That standard—that commitment to real naturopathy—should remain for natural health professionals today.

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Some of these studies (or citations) may not conform to peer review standards. Therefore, the results are not conclusive. Professionals can, and often do, come to different conclusions when reviewing scientific data. None of these statements have been reviewed by the FDA. All products distributed by Doctors' Research, Inc. are nutritional and are not intended for the treatment or prevention of any medical condition.

Doctors' Research, Inc.,

1036 W. Grand Avenue, Grover Beach, CA 93433 (805) 489-7185 www.doctorsresearch.com

Doctors' Research Support Literature and Educational Items

A great deal of technical support literature on our line of Food products is available at our website (www.doctorsresearch. com). There are also individual technical bulletins available on each of our Food products.

In addition, there are some educational items that we have found seem to help support many of the benefits of Food vitamin and mineral supplements. These support materials can help compliance and demonstrate to your clients that there are many differences between Food and non-food supplements. They can help your clients better understand the benefits of Food vitamins and minerals, as well as how unnatural the so-called 'natural' vitamin and mineral supplements are that they are currently taking.

It is an economic fact that it costs at least ten times as much to attract a new client, than it does to retain the ones you have. Our support literature is designed to help you retain your existing clients, while also (in the case of the Food Brochure) helping you attract new clients.

#99150 Food Brochure - These color brochures are designed to explain to your clients why they should take a Food Vita-Mineral supplement, instead of the non-food vitamin and crushed rock product they are probably currently taking. Its outside contains a picture of the Foods that are actually in Vita-Mineral, and the inside contains photographs taken with an electron microscope which show how structurally different Food and non-food supplements are. It also gives your clients the ability to read supplement labels so that they can show themselves (as well as their friends and relatives) that the Vita-Mineral product is Food, and only Food, whereas others are normally full of synthetic vitamins and inorganic industrial mineral salts. The Food Brochure is a hit in our clinic, and definitely has helped bring in new and repeat sales for Vita-Mineral, as well as some of the other Food products in the Doctors' Research line.

#99155 Food vs. Industrial Chemicals In Supplements Brochure - These color brochures are designed to explain to your clients what most non-food minerals in supplements really are and what some of their industrial uses are. It also explains the different chemical form of Food vs. non-food vitamins. It contains much of the same information that is contained on the #99160 Vitamin Poster and the #99165 Mineral Poster, except in a brochure size, so that your clients can take it home with them. This brochure was inspired by a doctor of chiropractic who felt that this information was just what his clients needed to persuade them to switch to genuine Food supplements.

#99172 Muscle Testing Wall Chart - This international, colorized, chart, titled Reflex Nutrition Assessment, is intended for the wall of your clinic if you perform muscle testing. Not only can it serve as a reminder for possible protocols, it also lets you show your clients what you are checking for. This chart is designed to help you retain clients who may have questions about muscle testing. It is approximately 24 inches long and 18 inches wide.

#99173 Muscle Testing Brochure - This brochure is designed to be provided to your first-time clients to familiarize them with muscle testing. Its actual title is Reflex Nutrition Assessment: An Applied Nutrition Science. Not only does it give some scientific rationale for muscle testing, it asks and answers many questions that your new clients may not be willing to directly ask you. By providing this brochure to your clientele, you can greatly increase compliance and repeat visits. It is the best such brochure for doctors that muscle tests that we have ever seen!

#NBser Serious Nutrition - Incorporating Clinically Effective Nutrition into Your Practice - This book, written by Robert Thiel, Ph.D., Board-Certified Naturopath and Nutrition Scientist, is a comprehensive book on the use of clinically-effective nutrition. It discusses multiple disease conditions, various types of assessment, provides forms, diets, and more. It contains information on individual nutrients, including individual vitamins, minerals, herbs, glandulars, and amino acids.

#Wbnat Combining Old and New: Naturopathy for the 21st Century - This book, written by Robert Thiel, Ph.D., Board-Certified Naturopath, is the most comprehensive book currently in print on naturopathy. It explains how people get sick, how people get well, as well as natural interventions often used by naturopaths. It contains writings from many current and historical naturopaths, and even explains advantages of natural Food vitamins and minerals over their synthetic counterparts. In addition to naturopathic schools, Ohio University and Portland State University have used it as a textbook. 296 pages.

2018 Catalog

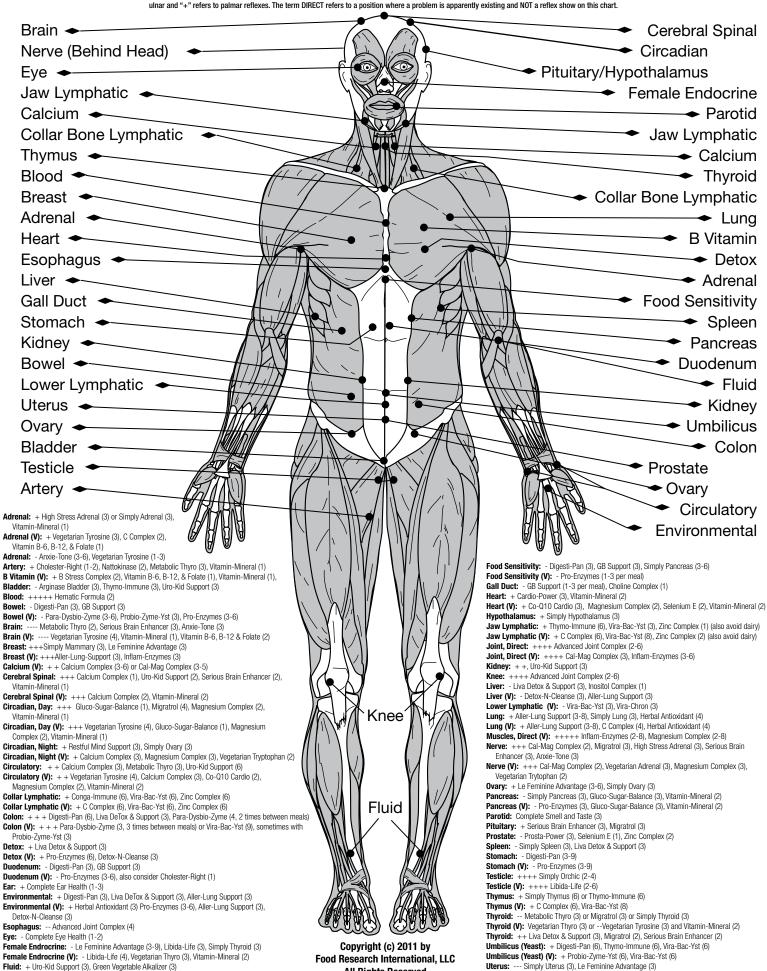
Chiro Nutrition Chart ™

	Vertebrae	Chiropractic Connection	Product Considerations
C1	— Cervical 1	Blood supply to head, pituitary	Inflam-Enzymes (4), Serious Brain Enhancer (3), Hematic Formula (1)
C2	— Cervical 2	Eyes, optic nerve forehead	Inflam-Enzymes (4), Complete Eye Health (1)
C3	— Cervical 3	Cheeks, teeth, trifacial nerve	Inflam-Enzymes (6), Cal-Mag Complex (2)
C5	— Cervical 4	Nose, lips, mouth	Inflam-Enzymes (6), Cal-Mag Complex (2)
C6	— Cervical 5	Vocal cords, neck glands	Inflam-Enzymes (4), Advanced Joint Complex (3)
C7	— Cervical 6	Neck muscles, shoulders	Inflam-Enzymes (6), Magnesium Complex (3)
T1	— Cervical 7	Thyroid gland	Inflam-Enzymes (4), Metabolic Thyro (3)
12	— Thoracic 1	Hands, trachea	Inflam-Enzymes (6), Advanced Joint Complex (3)
T3	— Thoracic 2	Heart, including its valves	Inflam-Enzymes (4), Cardio-Power (3), Omega 3/EPA/DHA (2)
T4	— Thoracic 3	Lungs, bronchials, breasts	Inflam-Enzymes (4), Simply Lung (2) or Simply Mammary (2)
15	— Thoracic 4	Gall bladder, bile duct	Inflam-Enzymes (4), GB Support (3)
16	— Thoracic 5	Liver, blood	Inflam-Enzymes (4), Liva Detox & Support (3), Hematic Formula (1)
10	— Thoracic 6	Stomach	Inflam-Enzymes (4), Digesti-Pan (3-6)
17	— Thoracic 7	Pancreas	Inflam-Enzymes (4), Simply Pancreas (3)
T8	— Thoracic 8	Spleen, diaphragm	Inflam-Enzymes (4), Simply Spleen (3)
T9	— Thoracic 9	Adrenal glands	Inflam-Enzymes (4), Simply Adrenal (3) or Anxie-Tone (3)
	— Thoracic 10	Kidneys	Inflam-Enzymes (4), Uro-Kid Support (3-6)
710	— Thoracic 11	Kidneys, ureters	Inflam-Enzymes (4), Uro-Kid Support (3-6)
TII	— Thoracic 12	Small intestines, lymph nodes	Inflam-Enzymes (4), Digesti-Pan (3-6)
T12	— Lumbar 1	Large intestines	Inflam-Enzymes (6), Para-Dysbio-Zyme (4) or GB Support (3)
Li	— Lumbar 2	Abdomen	Inflam-Enzymes (6), Digesti-Pan (3-6)
12	— Lumbar 3	Sex organs	Inflam-Enzymes (4), Le Feminine Advantage (3) or Prosta-Power (3)
	— Lumbar 4	Prostate, lower back muscles	Inflam-Enzymes (6), Prosta-Power (3) or Magnesium Complex (4)
L3 //	— Lumbar 5	Lower legs, feet, toes	Inflam-Enzymes (6), Cal-Mag Complex (2) or Vegetarian Adrenal (2)
L4	— Sacrum	Hips, buttocks	Inflam-Enzymes (4), Advanced Joint Complex (4)
L5	— Соссух	Rectum, anus	Inflam-Enzymes (4), Para-Dysbio-Zyme (6)
	Other Concerns	s Chiropractic Connection	Product Considerations
s	Ankles	Ankles	Uro-Kid Support (4)
	Bones	Bones	Calcium Complex (4), D Complex (1) or Cal-Mag Complex (3)
	Elbows Health	Elbow All eveteme	Inflam-Enzymes (6), Advanced Joint Complex (2)
} //		All systems	Vitamin-Mineral (1-2)
	Injury Knee	Joint, muscle Knee	Inflam-Enzymes (8), Omega 3/EPA/DHA (4) Advanced Joint Complex (4), also avoid caffeine
	Moving aches	Muscles, joints	Inflam-Enzymes (6), Migratrol (3)
C	Muscles	Muscles	Magnesium Complex (3), Omega 3/EPA/DHA (4)
7	Wrists	Wrists	Inflam-Enzymes (6), Vitamin B-6, B-12, & Folate (2)

Note: Many spinal nerves are connected to multiple organs/systems, thus this chart is not always applicable. The above chart also normally is not including suggestions when a problem is caused by some type of infection. The amount of tablets/capsules often taken per day is shown between the (). None of these statements have been approved by the US Food and Drug Administration, Health Canada, or similar authorities.

REFLEX NUTRITION ASSESSMENT C

This chart can be used by doctors who do, or do not, "muscle test" as it shows nutritional products to support various healthy systems in the human body. For those that do muscle test, "-" refers to



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Are Your Supplements 100% Food or Rocks?

If you and your clients are like most health-conscious Americans today, you have serious concerns about the quality of our food supply (Genetically Modified Organisms, preservatives, chemical additives, commercial processing), enough so, that you are taking a multiple vitamin and mineral supplement. Shouldn't those supplemental nutrients be from Food?

Sadly, most supplement formulas sold today do not contain vitamins and minerals as found in foods. Even though the label often claims that the product is "natural", the ingredients are almost always USP synthetic vitamins and commercially mined and processed rocks. These rocks are altered using industrial chemicals, such as gluconic acid (which is used in cleaning compounds), to form isolated rock salts, and while rocks are natural food for plants, they are not a natural food for humans.

Nature intended that plants would ingest rocks and in turn, humans would eat the plants. Plants have the ability to change the chemical compounds found in rocks and to detoxify them. Plants ingest rocks, humans eat plants. This is called the "Food Chain".

Commercially processed rocks are used in the manufacturing of supplements because they are much cheaper to produce than the nutrients found in Food Research Food supplements.

Food Vitamins and Minerals are made from natural food nutrients...

C ompare these electron microscope photographs (same magnification), and you'll see the difference between the Food nutrients on the left, and isolated U.S.P. synthetic vitamins and mineral salts on the right. Food nutrients do not even look the same as U.S.P. vitamins and mineral salts. Not only do most of the nutrients differ in their physical appearance, they differ chemically and structurally as well.

Food nutrients tend to have a more rounded appearance, whereas U.S.P. vitamins have a more crystalline or rock-like appearance, as do most mineral salts used to produce synthetic supplements.

STOP the Use of Synthetic Vitamins



Eating Industrial Chemicals!

FOOD NON-FOOD **Vitamins & Minerals Vitamins & Minerals** Food Vitamin B-1 Thiamin HCL Food Vitamin C Ascorbic Acid

Food Zinc

Zinc Chloride

Food Nutrients are Superior to Non-Foods

Food Mineral	Compared to Mineral Salt/Chelate	Food Vitamin	Compared to USP/Natural/Non-Food Vitamins
Calcium	Up to 8.79 times more absorbed into the blood and 7 times as effective in raising serum ionic calcium levels	Vitamin A	54% more absorbed into the blood; also more complete, as scientists teach that vitamin A is not an isolate.
Chromium	Up to 25 times more bioavailable	Vitamin B Complex	More effective in maintaining good health and liver function
Copper	85% more absorbed; also contains substances that	Vitamin B-1, Thiamin	38% more absorbed into the blood
	reduce potential toxicity	Vitamin B-2, Riboflavin	92% more retained in the liver
Iron	Safer, non-constipating, 77% more absorbed	Vitamin B-3, Niacinamide	3.94 times more absorbed into the blood
Magnesium	Up to 2.20 times better absorbed and retained	Vitamin B-5, Pantothenate	57% more absorbed into the blood
Manganese	Better absorbed and retained and not as likely to	Vitamin B-6	2.54 times more absorbed into the blood
	contribute to toxicity as mined forms	Vitamin B-9, Folate	2.13 times more retained in the liver; more utilizable above
Molybdenum	Up 6.28 times better absorbed into the blood and 16.49		266mcg (Recommended Daily Intake is 400mcg) and safer
DI 1	times better retained	Vitamin B-12	2.56 times more absorbed into the blood
Phosphorus	Less likely to cause diarrhea or electrolyte disorders	Vitamin C	Over 15.6 times antioxidant effect; 74% better absorbed into red blood cells
Selenium	17.6 time the antioxidant effect, 123.01 times more		
	effective in preventing nonenzymatic protein glycation, and 2.26 times better retained	Vitamin D	Over 10 times the antirachitic effect
Vanadium		Vitamin E	Up to 4.0 times the free radical scavenging strength
	Safer and 50% more effective Up to 6.46 times better absorbed, better form	Vitamin H	Up to 100 times more biotin effect
Zinc		Vitamin K	Safer for children

The differences are more than quantitative. Some have felt that if they take, for example, twice as much of a synthetic vitamin or industrial rock (called a mineral salt) than a Food vitamin or mineral, then it will be just as effective in the body. That is simply not true. No matter how much "ascorbic acid" one takes, it will never have negative ORP (oxidative reduction potential)—thus, it simply cannot do what FOOD nutrients can do. USP vitamins and mineral salts are cheap (or not so cheap) industrial imitations of Food vitamins and minerals—they are not Food!

SYNTHETIC VITAMINS & OTHER ROCKS CANNOT REPLACE ALL THE FUNCTIONS OF FOOD VITAMINS & MINERALS! USP vitamins and minerals are not structurally the same, nor in most cases chemically the same, as Food nutrients.

A Century of Manufacturing Quality Food Supplements

The primary two manufacturers of FOOD brand supplements have over 100 years of combined experience producing quality food supplements. Both facilities are U.S. F.D.A. registered, meet GMP standards, are certified Halal and Kosher, and receive periodic independent audits.

Of the approximately 1,500 vitamin and mineral companies, only a handful actually grow vitamins and minerals. The others normally buy USP isolates--essentially synthetics that they legally can call natural, and industrially processed rocks.

The specially-grown nutrients are pesticide free, are strictly vegan, have no Genetically-Modified-Organisms upon average analysis (which means there have been no GMOs any time they have been tested for), and the nutrient content of each batch is tested for potency. Nutrients are HPLC tested to insure no contaminants. And testing has been done to insure that the end-products disintegrate in the digestive process.

Glandulars are used in non-vegan products. For them, a leading producer of non-USA source glandulars supplements was selected (other than any goat-containing product, which comes from a small farm in the USA, none of the glandulars in any of the products are USA source). This company was founded over fifty-years ago by a colleague of Royal Lee.

Tablets or Capsules?

Some FOOD brand products are tableted, while others are encapsulated. Why?

The primary reason that many products are provided in tablets is to reduce supplement size as many of them in the nutrient formulas would be several times larger if capsules were used. To reduce deactivation of many of the bio-active peptides, enzymes, and other volatile food compounds present in the raw food materials, the manufacturers use slow heat-free tableting procedures to prevent denaturing. A light vegan food-glaze is added to protect the food product from excessive oxidation and for ease of swallowing.

Capsules tend to be used for herbal formulas or certain combination formulas. Only vegan capsules are used. If a "filler" is needed for size or shape (in capsules or tablets respectively), rice bran is used.

FOOD brand products combine the best of the best so that your clients really can have the best. All FOOD brand products are 100% food!



Nutrition from food, what a concept! TM

