Discover the next generation of nutritional supplementation, with the Patented BioG Microtabs Ingredients Technology

BioG MicroTabs Ingredients Product Catalog

Each person is unique and requires a personalized nutritional supplement according to their specific health conditions.
An Advanced Delivery System
With The Highest Quality Pharmaceutical Grade Raw Ingredients

ROEHR™ BioG MicroTabs Ingredients

Each BioG MicroTabs Ingredients block, whether one ingredient or combination of ingredients, forms the basis of our supplement blends. Learn why we select specific nutrients and combinations to produce the highest quality, most advanced delivery system in nutritional supplements. Discover the scientific basis of each BioG MicroTab ingredients block.

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ANTIOXIDANT SUPPORT & CELLULAR ENERGY

BioG B-Complex/Broccoli Extract MicroTabs
This comprehensive B-vitamin blend—B1, B2, B6, B12, B7 (biotin), B5 (calcium pantothenate), B9 (folic acid), and B3 (nicotinamide)—is paired with a unique broccoli extract for added antioxidant support. Each individual pharmaceutical-grade ingredient is microencapsulated to enhance stability and bioavailability.*

BioG B-Complex/Broccoli Extract provides focused support for optimal energy, cardiovascular health, and immune responses. B complex vitamins are essential to promote healthy carbohydrate, protein, and lipid metabolism. The addition of broccoli extract activates a wide range of anti-oxidant and detoxification enzymes, further optimizing metabolic function. This combination of vitamins with broccoli extract is especially beneficial considering the inadequate dietary choices and poor food supply.*

BioG Fruits and Greens MicroTabs
Cellular vitality, healthy tissue and organ function depend on optimal antioxidant activity in the body. However, today’s diets are often void of adequate and varied colorful fresh fruits and vegetables, resulting in surprisingly low amounts of dietary antioxidants. Simultaneously, modern lifestyle stressors accelerate oxidative states in the body, requiring more and not less dietary antioxidants. So, nutritional supplementation becomes even more important to assure adequate, daily and varied antioxidant consumption. In addition, many supplements sold in stores and from catalogs do not provide adequate or consistent antioxidant activity.

Our BioG Fruits and Greens block stands out by providing standardized and concentrated fruit, vegetable, berry and plant extracts containing a multitude of antioxidant compounds. We use only the best ingredients that are standardized, proprietary and high in ORAC (Oxygen Radical Absorptance Capacity). These proprietary blends contain extracts from: wild blueberries, grapes, grape seed, raspberry, raspberry seed, cranberries, prunes, cherries, strawberries, pomegranates and more. Therefore our BioG Fruits and Greens are loaded with diverse phytochemicals including: resveratrol, polyphenols, anthocyanins, proanthocyanidins, ellagic acid, punicalagens, chlorogenic acid, catechins and more.

Recent research, has demonstrated properties for these phytochemicals well beyond anti-oxidation such: as anti-inflammation, the modulation of cell signaling pathways and direct affects on the epigenome, that regulate gene expression of key proteins and enzymes. (1)

In fact, 1 gram of our BioG Fruits and Greens is equivalent to 9 servings of fruits and vegetables, with an ORAC of at least 5,400 units per gram. This standardized, consistent antioxidant formulation is in a natural form, being easily absorbed and utilized by the body. It promotes both cardiovascular health and overall wellness.*

In addition to fruits and berries, this comprehensive blend contains compounds from Brassica vegetables such as broccoli, providing support for endogenous antioxidant activity. (2) Nutrition research is demonstrating that compounds from broccoli promote several

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aspects of health including: balanced hormonal activity, gut health, healthy immune responses, and cardiovascular health. But, until recently, there were no supplements that successfully delivered broccoli’s full antioxidant and overall health promoting potential.*

When broccoli is chewed, natural enzymatic activity converts glucoraphanin into the super-antioxidant sulforaphane. (3) The dietary supplement industry overlooked this important conversion step. So ROEHR™ BioG Fruits and Greens MicroTabs include the enzyme myrosinase to ensure glucoraphanin-sulforaphane conversion.* Sulforaphane is a powerful antioxidant and by adding myrosinase, antioxidant effectiveness is greatly enhanced in your supplement. We are one of the very few companies to have myrosinase. And our broccoli extract is standardized to 4% glucosinolates.

By providing a wide range of exogenous antioxidants/phytochemicals from fruits and berries and by supporting endogenous antioxidant/detoxification activity with broccoli extract, our BioG Fruits and Greens block is second to none on the market today.


BioG Coenzyme Q10 Emblica MicroTabs

An important antioxidant, coenzyme Q10 (or CoQ10) is now widely recommended as an adjunct to statin and beta blocker drug therapies, since these medications inhibit the endogenous production of CoQ10. The role of CoQ10 to enhance mitochondrial energy production in addition to antioxidation is well documented. Furthermore, recent studies demonstrate an effectiveness of CoQ10 for improving myocardial contraction and tissue reperfusion after ischemic insults. (4)

Unlike many CoQ10 products on the market today with variable bioavailability, our CoQ10 is water soluble resulting in excellent bioavailability. BioG Coenzyme Q10 Emblica maximizes bioavailability by utilizing a unique fermented coenzyme Q10 source. It is pharmaceutical-grade, water-soluble, and provides three times the bioavailability of other coenzyme Q10 products. So that 60 mg of water-soluble CoQ10 is comparable up to 180 mg of conventional CoQ10.*

We did not stop there. We combined this novel CoQ10 with Emblica, Indian gooseberry extract, standardized to 20% hydrolysable ellagic tannins (confirmed via HPLC). Well known in Ayurvedic medicine, Emblica is a unique adaptogenic fruit with many diverse compounds including: diterpenes, flavonoids, polyphenols, ellagic acids and high concentrations of vitamin C. Animal models demonstrate the benefits of Emblica with regards to supporting healthy cholesterol levels. In one pilot study of human subjects with hypercholesterolemia, the addition of Emblica extract significantly reduced: total plasma cholesterol, LDL and triglycerides while increasing HDL. (5)

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This unique combination of water soluble CoQ10 and Emblica extract make this ingredient block an attractive nutritional supplement for supporting cardiac and cardiovascular health.


**BioG Multi-Vitamin/Mineral PLUS MicroTabs**

This is a comprehensive combination of 28 pharmaceutical-grade active ingredients, micro-encapsulated for slow-release in the digestive tract to optimize uptake.*

- **B Vitamins:** B1, B2, B3, B5, B6, B7 (biotin), B9 (folic acid), B12 (cyanocobalamin)
- **Multi Vitamins:** A (beta carotene), C, D3 (cholecalciferol), K1 (phytonadione), and E (dl-alpha tocopherol)
- **Antioxidants:** lutein, lycopene, mixed tocotrienols, citrus bioflavonoids
- **Minerals:** iron, zinc, copper, manganese, potassium, chromium, selenium, molybdenum
- **Amino Acids:** L-lysine, L-carnitine, L-methionine

All of these nutrients are vital in promoting healthy carbohydrate, lipid and protein metabolism, optimizing anti-oxidation, immune responses, tissue repair and many other essential functions. Furthermore, this formulation provides specific ratios for these nutrients to ensure balanced supplementation.

**BioG Vitamin C MicroTabs**

Vitamin C is well known for its ability to act as a free radical scavenger. As a ubiquitous, water soluble antioxidant, it is especially beneficial to support the immune system and the health of dermal and connective tissue. Since humans cannot synthesize vitamin C and it is easily destroyed in cooking, supplementing with vitamin C is recommended especially for those with immune and respiratory challenges. (6) Also, excessive stress and exposure to pollutants increase vitamin C requirements.*

With regards to immune function, vitamin C has been shown to: stimulate production of T-lymphocytes, increase interferon production, enhance leukocyte mobility and phagocytic function, increase antibody production and inactivate some bacteria. (6)

Our BioG Vitamin C MicroTabs provide 900 mg of pharmaceutical-grade vitamin C per gram. Higher doses should be used with caution for those patients with a history of, or those at risk for kidney stone formation or renal dysfunction.*

BioG Vitamin E Mixed Tocopherols/Sesame Lignan MicroTabs

Four natural non-GMO soy-derived alpha (minimum 10%), beta, gamma (minimum 55%), and delta (minimum 20%) tocopherols are combined with sesame lignan to create this unique formulation, enhancing tocopherol activity. Mixed tocopherols are known to support dermal health, cognitive function, and cardiovascular health. This diverse health support is attributed to tocopherol antioxidant activity. As a fat-soluble vitamin, tocopherols provide specific antioxidant protection against fatty acid oxidation within cell membrane lipids.*

The addition of sesame lignans enhances healthy fat utilization on a cellular level.

This combination of tocopherols and sesame lignans can promote enhanced concentrations of alpha- and gamma-tocopherols in the blood serum.*

Recent studies have revealed lignans in sesame that have a novel synergistic effect on tocopherol activity, by inhibiting the metabolic decomposition of tocopherols. This effect of sesame lignans results in lowering fatty acid concentration in liver and serum due to acceleration of fatty acid oxidation and suppression of fatty acid synthesis.

A recent human trial demonstrated the effect of sesame seed dietary intake on lipid profile and redox status in hyperlipidemic patients. Sesame lignans significantly decreased levels of serum total cholesterol and LDL in these subjects. In addition, lipid peroxidation decreased (via TBARS assay) while activities of glutathione and SOD increased. (7)

Anti-inflammatory properties for sesame lignans have also been described, most recently via inhibition of NF-Kappa B activation. (8) Other interesting properties for these lignans include: antihypertensive, immunoregulatory, anticarcinogenic and others. (9)


BioG Vitamin E d-AlphaTocopherol Acid Succinate MicroTabs

With 1g containing 400 IU d-alpha tocopherol acid succinate, 50 mg mixed tocopherols and 10 mg of sesame lignans, this unique formulation provides effective tocopherol activity. Mixed tocopherols are known to support dermal health, cognitive function, and cardiovascular health. This diverse health support is attributed to tocopherol antioxidant activity. As a fat-soluble vitamin, tocopherols provide specific antioxidant protection against fatty acid oxidation within cell membrane lipids.*

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This combination of tocopherols and sesame lignans can promote enhanced concentrations of alpha- and gamma-tocopherols in the blood serum.*

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BALANCED INFLAMMATORY RESPONSES & COMFORTABLE RANGE OF MOTION

BioG Boswellia MicroTabs
This superior *Boswellia serrata* extract contains a minimum of 70 percent boswellic acids (with a minimum of 10 percent of the most active form, known as AKBA acids). This higher concentration, as compared to most boswellia products on the market, can translate into lower doses needed to achieve a desired effect. Boswellia promotes healthy inflammatory responses throughout the body resulting in significant support for joint health, soft tissue and dermal health.*

*Boswellic acids, derived from the Indian Frankincense plant modulate the inflammatory response in a variety of ways. Recent in vitro studies demonstrate that Boswellic acids: down-regulate inflammatory cytokines including TNF-alpha, inhibit activation of NF-Kappa B, inhibit leukotriene biosynthesis via selective inhibition of 5-LO, increase phagocytosis and suppress activation of the classic complement pathway. (10)*

Based on potential mechanisms of action, several human trials have evaluated the efficacy of boswellia extract supplementation as an adjunct to the management of patients with asthma. (11,12)

The selective inhibition of 5-LO pathways, as compared to the inhibition of COX pathways, explains why boswellic acids have not resulted in GI side effects (as seen with compounds known to block COX enzymes). Boswellia extract has been used for centuries in Indian Ayurvedic medicine. Since, there are no known adverse reactions to Boswellia, it is an attractive adjunct for managing the patient’s inflammatory challenges.*


BioG Chondroitin Sulfate MicroTabs
Chondroitin sulfate is a major structural component of cartilage. It is part of the extracellular matrix—the structure surrounding and supporting cells. As such, it is largely responsible for the “cushioning effect” of cartilage. This is vital for comfortable range of motion in joints during day-to-day and athletic activity. Supplementing with a high quality chondroitin ingredient can provide support for healthy connective tissue and cartilage. When the body has sufficient amounts of this building block, it is able to recover quickly from normal wear and tear and the typical effects of athletic exertion.*

Chondroitin sulfate, is most effective when used in combination with glucosamine, MSM and hyaluronic acid. It is recommended for both mature adults seeking to promote comfortable range of motion as well as athletes wishing to support athletic recovery.* BioG Chondroitin Sulfate MicroTabs Block is a pharmaceutical grade ingredient, ensuring consistent content, purity, and efficacy.

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BioG Curcumin/Ginger Bioenhanced MicroTabs

Curcumin is a bioactive component of turmeric, an Indian spice with a long history of use in Ayurvedic traditions. Extensive scientific studies have found that curcumin can provide antioxidant support and a broad range of anti-inflammatory effects. As an anti-inflammatory herb, curcumin modulates multiple molecular targets via alteration of gene expression, cell signaling pathways or direct interaction. For example, curcumin may regulate the expression of TNF-alpha, IL-2, NF-Kappa B, VEGF (a growth factor), COX-2, 5-LO, adhesion molecules, apoptotic proteins and more. (13)

However, until recently, most curcumin products have demonstrated unpredictable results, due to poor bioavailability (not being in a form that the body can readily absorb and use). Our BioG Curcumin/Ginger Bioenhanced MicroTabs resolves this challenge by providing a patented curcuminoid complex that is up to seven times more bioavailable in humans and has been shown to remain bioactive in the body up to two times longer than other curcumin preparations. (14) As a result, 250 mg of BioG-Curcumin/Ginger Bioenhanced MicroTabs may be as effective as up to 1730 mg of a 95 percent standardized curcumin extract. Additionally, our curcumin extract is combined with 6 percent standardized ginger extract for added antioxidant support and promotion of healthy inflammatory responses. Ginger also supports digestive health and function. This ingredient is especially appropriate for those who wish to support both comfortable range of motion and cardiovascular health.*


BioG Glucosamine Sulfate/Hyaluronic Acid MicroTabs

Found both in synovial fluid and in connective tissue, glucosamine sulfate and hyaluronic acid (HA) are naturally occurring substances in the body that promote a comfortable range of motion. Rather than masking the effects of normal wear and tear as many mainstream products do, supplementing with glucosamine sulfate and hyaluronic acid supports the body’s endogenous mechanisms for maintaining healthy joints.*

Glucosamine is an amino-monosaccharide, a combination of glutamine and glucose. Glucosamine is concentrated in joint cartilage where it is incorporated in longer chains known as glycosaminoglycans and finally into proteoglycans. Glucosamine is a key component of cartilage. And as we age, the endogenous production of glucosamine may diminish. Hyaluronic acid is also an important component of cartilage and the synovial fluid, promoting joint lubrication.

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This supplement provides pharmaceutical-grade glucosamine sulfate (2 KCl USP) combined with low molecular weight hyaluronic acid, to enhance oral bioavailability. Both ingredients are formulated in an optimum ratio to promote healthy synovial fluid viscosity and cartilage. Note that it may take some time for the body to fully utilize supplemental glucosamine and HA, so expect to see joint health effects within several weeks of daily supplementation. *

Our glucosamine ingredient is derived from shellfish and should be avoided by those with shellfish allergy.

**BioG MSM MicroTabs**

Methylsulfonylmethane (MSM) is a natural bioactive source of sulfur that the body uses to maintain cartilage and connective tissue. Sulfur helps to form the cross-linkages in connective tissue, which adds to the tissue’s structural integrity. Sulfur is also used throughout the body for the synthesis of proteins and enzymes.

MSM is found naturally in all living organisms and should be obtained through healthy dietary intake. Although, present in meats, dairy foods, and fresh produce, MSM is often destroyed in the processing of foods. This may explain why MSM supplementation has been effective for some individuals who wish to support comfortable range of motion. It does take some time for the body to fully utilize supplemental MSM; expect to see joint health effects within several weeks of daily supplementation.*

*Also see our Omega-3 EPA and DHA ingredients in the next section.*

Omega-3 supplementation can help balance Omega-6 intake in the typical modern diet. Promotion of a healthy Omega-6:3 ratio is key to supporting healthy inflammatory responses. Whereas excessive Omega-6:3 intakes can affect overall health and promote unhealthy inflammatory responses, affecting the joints and cartilage.*

**SPECIFIC HEALTH GOALS**

**BioG Andrographis MicroTabs**

*Andrographis paniculata* is an herb native to India and Sri Lanka. Having a long history in Ayurvedic and Chinese medicine, it is well recognized for promoting effective immune responses, by supporting antibody function and phagocytosis. Our andrographis leaf and rhizome extract delivers the plant’s active components andrographolide and diterpene. Several human trials have demonstrated the efficacy of andrographis supplementation for relief in patients of uncomplicated upper respiratory events. (15, 16) It is considered most effective when taken at the onset of an immune system challenge.*

Andrographis may increase uterine contractions and should not be taken by pregnant women.*

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BioG Betaine Anhydrous MicroTabs
Betaine (pronounced BEET-a-een) or trimethylglycine is a source of methyl groups (CH₃), which is needed for important methylation reactions. An example of an important methylation reaction is the conversion of homocysteine to methionine. Therefore, betaine supports the body’s ability to maintain healthy homocysteine levels. (17) As a methyl donor, its role is similar to folic acid, and it should always be taken in combination with a B-complex.*

Animal models have shown that methyl donors, including betaine can play a hepatoprotective role in alcohol or obesogenic induced triglyceride accumulation. One suggested mechanism for this protection includes a direct effect on preserving normal mitochondrial/oxidative phosphorylation function in hepatocytes. (18, 19)

Betaine also functions as a choline metabolite, thereby supporting the production of phospholipids and sphingomyelin, promoting healthy cell membranes. Also, as a choline metabolite, it is a precursor to acetylcholine, an important neurotransmitter. Betaine is an auxiliary source of HCl (stomach acid), which triggers healthy pepsin production. As people age, HCl levels tend to decline, thereby affecting digestive efficiency and overall health. For all of these reasons, betaine is a versatile, beneficial supplement for mature adults.*


BioG Calcium/Magnesium (PLUS D3, K, Silica) MicroTabs
Supplemental calcium if not combined with appropriate minerals and vitamins may not be effective and can cause “imbalances”. With this in mind, ROEHR™ has combined highly bioavailable calcium citrate and magnesium citrate in an optimum ratio.

Magnesium often deficient in American diets, is essential along with calcium for proper bone mineralization and helps hold calcium in place in tooth enamel. In addition, magnesium plays a key role in skeletal muscle relaxation and smooth muscle relaxation. Both calcium and magnesium are critical for promoting overall cardiovascular and cardiac health.

The addition of vitamin D3, K, and silica ensure appropriate absorbance and utilization of calcium. This formulation supports proper bone mineralization while helping to avoid inappropriate calcium deposition that can occur in soft tissues (due to low-quality calcium supplements). This unique vitamin and mineral formulation is also vital for supporting nerve function, hormonal balance and healthy sleep cycles.*

Since the American diet, though dairy-rich, tends to be low in bioavailable forms of calcium and magnesium, it is vital to supplement with easily absorbed calcium, magnesium and the appropriate vitamins and minerals. This ROEHR™ BioG MicroTabs Block provides the solution.*

BioG CranMax/D-Mannose Plus MicroTabs
We use the highest quality and clinically studied cranberry extract, CranMax®. Made from 100% cranberry fruit solids, and a proprietary process that intensifies the natural benefits of the whole cranberry, it contains no solvents, preservatives, sugars, water, flavoring or coloring agents. In addition, Cran-Max®, via a patented Bio-Shield® Technology protects the cranberry from destruction by gastric acid, delivering the nutrients to the lower gastrointestinal tract where they can be absorbed through a time-released mechanism.

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Being more concentrated and bioavailable than other cranberry extracts, CranMax has 3 times greater antioxidant activity than cranberry juice and 25% more fiber for maintaining a healthy urinary tract. (20,21) *

* By the way, “cranberry juices” are often between 25-35% pure cranberry juice with the remainder being water and sugar. So, cranberry juice is a more expensive and caloric way to obtain the beneficial properties of cranberries than our high quality cranberry supplement.

Combined with D-Mannose, our blend has an exceptional ability to support urinary tract health. D-mannose, a simple sugar found naturally in cranberries and other fruits, can offer added benefits. D-mannose, when taken in a concentrated form, remains unmetabolized, enters the urinary tract and can attach to the surfaces of E.coli (22). This supports the body’s natural ability to keep such micro-organisms in check, easily flushing them through the urinary tract.*


**BioG Methylcobalamin MicroTabs**

Methylcobalamin is an active form of Vitamin B12—unlike cyanocobalamin, which must first be converted to an active form. This active form of B12 which is available in our BioG MicroTabs, results in superior support for those who are vegan or have specific health challenges.* (23)

It is well established that vegan diets may be deficient in B12. B12 is also beneficial for supporting healthy homocysteine levels, and as with all B vitamins, it is vital for healthy energy production.

Note that many supplemental forms are not highly bioavailable. ROEHR™ BioG MicroTabs provide only methylcobalamin, the active form of B12, more readily utilized by the body. Microencapsulation also ensures better uptake through the digestive system.*


**BioG Red Yeast Rice Extract 3% MicroTabs**

Red yeast rice is a fermented rice product with a long history of culinary uses in China. The rice is indeed red and acquires its pigment from the process of fermentation with the yeast Monascus purpureus. The resulting fermented food is a natural source of monacolin K (chemically identical to lovastatin).*

Red yeast rice extract supplementation provides natural statin compounds, supporting healthy cholesterol levels. (24,25) Our red yeast rice extract contains compounds (monacolins) that have been demonstrated to inhibit the enzyme HMG CoA reductase. Some brands have low amounts of monacolins while others may have monacolins, but in an inactive form, monacolin lactone. Our BioG red yeast rice extract MicroTabs Block has the
monacolins in up to 75% of the active form (monacolin hydroxyacids). The body can only utilize the monacolin compounds after it has been hydroxylated in the liver, making this monacolin hydroxyacid form more efficient and bioavailable. An optimal concentration of this active monacolin form and the highest possible concentration of HMG CoA Reductase inhibitor compounds are ensured during the production process.*

Our Red Yeast Rice extract provides cardiovascular health benefits effects without significant side effects. As with all of these (statin) compounds, via the inhibition of HMG CoA reductase, the endogenous production of CoQ10 will be reduced. Therefore, we recommend to always combine the BioG Red Yeast Rice Extract 3% MicroTabs with our BioG Coenzyme Q10/Emblica MicroTabs. As noted previously, our BioG CoQ10 Emblica MicroTabs Block will optimize energy production, promote myocardial function and provide effective anti-oxidant protection.*

Red yeast rice extract should not be taken by pregnant or breastfeeding mothers. This product should be taken under the direction and supervision of a physician.

BioG Omega-3 DHA MicroTabs

The typical American diet is often quite imbalanced in its essential fatty acid intake. All essential fatty acids—commonly referred to as Omega-3, Omega-6, and Omega-9—are vital for overall health, but are needed in specific ratios. The body may function at its best when the omega-6, -3, and –9 intakes are at a ratio of 4:1:1. Due to excessive intake with low quality vegetable oils, most Americans consume excessive amounts of Omega-6—over twenty times their Omega-3 intake. This imbalance can affect cardiovascular health, inflammatory responses, muscle comfort and function, and even mental clarity.*

High quality supplementation with Omega-3 is an easy and convenient way to support a balanced fatty acid intake. ROEHR™ supplies a specific Omega-3 fatty acid, called DHA (docosahexaenoic acid). DHA is well recognized to promote heart health. A major component in brain cells, DHA also provides essential support for healthy cognition, mental clarity and vision. Our marine source DHA is microencapsulated into powder form and then compressed into BioG MicroTabs.

BioG Omega-3 EPA MicroTabs

The typical American diet is often quite imbalanced in its essential fatty acid intake. Though all essential fatty acids—commonly referred to as Omega-3, Omega-6, and Omega-9—are vital for overall health, they are needed in specific ratios. The body may function at its best when the omega-6, -3, and –9 intakes are at a ratio of 4:1:1. Due to excessive intake with low quality vegetable oils, most Americans consume excessive amounts of Omega-6—over twenty times their Omega-3 intake. This imbalance can affect cardiovascular health, inflammatory responses, muscle comfort and function, and even mental clarity.*

High quality supplementation with Omega-3 is an easy and convenient way to support a balanced fatty acid intake. ROEHR™ provides a specific Omega-3 called EPA (eicosapentaenoic acid). EPA provides focused support for healthy brain cell function, promoting healthy mood and focus. Our marine source EPA is microencapsulated into powder form and then compressed into BioG MicroTabs.

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BioG Vitamin D3 MicroTabs

Vitamin D, known as the “sunshine vitamin” is a fat soluble vitamin/hormone manufactured by the body via dermal exposure to sunlight. Many people use sun block and avoid sun exposure to avoid the harmful rays of the sun. Although a smart lifestyle choice to prevent skin cancer, minimal sun exposure can reduce our own endogenous production of this important vitamin. And since many dietary choices are surprisingly low in vitamin D, high quality vitamin D supplementation is a great solution.*

Vitamin D promotes calcium absorption in the gut and maintains adequate serum calcium and phosphate concentrations to enable normal mineralization of bone and to prevent hypocalcemic tetany. It is also needed for bone growth and bone remodeling by osteoblasts and osteoclasts (26,27). Without sufficient vitamin D, bones can become thin and brittle. Vitamin D prevents rickets in children and osteomalacia in adults (26). Together with calcium, vitamin D also helps protect older adults from osteoporosis.

Vitamin D has other important roles in the body, including modulation of cell growth, neuromuscular and immune function, and reduction of inflammation (26, 27, 28). Many genes encoding proteins that regulate cell proliferation, differentiation, and apoptosis are modulated in part by vitamin D. Many cells have vitamin D receptors, and some convert 25(OH)D to 1,25(OH)2D (the active form).

Serum concentration of 25(OH)D is the best indicator of vitamin D status. It reflects vitamin D produced cutaneously and that obtained from food and supplements and has a fairly long circulating half-life of 15 days.

The National Health and Nutrition Examination Survey (NHANES), 2005–2006, estimated vitamin D intakes from both food and dietary supplements. Average intake levels for males from foods alone ranged from 204 to 288 IU/day; for females the range was 144 to 276 IU/day. When use of dietary supplements was considered, these mean values were substantially increased (37% of the U.S. population used a dietary supplement containing vitamin D.) The most marked increase was among older women. For women aged 51–70 years, mean intake of vitamin D from foods alone was 156 IU/day, but 404 IU/day with supplements. (26)

Groups at risk for vitamin D inadequacy include: older adults, people with limited sun exposure, African Americans, fat malabsorption clients, obese persons, status post gastric bypass, to name some.


ROEHR™’s pharmaceutical quality, microencapsulated format provides 8,000 IU of cholecalciferol (D3) in one gram (1000mg) of BioG MicroTabs. The small MicroTab size can support faster, more thorough uptake.*

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BioG Vitamin E, Mixed Tocotrienols MicroTabs

We provide a full spectrum palm tocotrienol complex with the highest ratio of alpha-, beta-, gamma-, and delta tocotrienols in natural proportion. Each 1g of BioG Vitamin E, Mixed Tocotrienol MicroTabs contains 70mg mixed tocotrienols. This unique combination is GMP certified.

Vitamin E contains the 4 isomers (alpha, beta, gamma and delta) of tocotrienols in addition to the 4 isomers of tocopherols. Recent nutrition research has elucidated and differentiated the important properties of the tocotrienol isomers from the tocopherols. (29, 30) Tocotrienols play a specific role in promoting healthy cholesterol levels by the hepatic inhibition of HMG CoA reductase. Furthermore, palm based tocotrienols can serve as potent antioxidants, helping to protect against oxidative stress in cardiac tissue, induced by ischemic reperfusion. Delta tocotrienols in particular has been shown to promote healthy platelet function via the inhibition of platelet aggregation. And several of the tocotrienols have demonstrated anti-tumor properties in animal models and in vitro systems including: pro-apoptosis, suppression of VEGF (angiogenesis) and induction of anti-tumor immunity.* (31)


BioG Ginkgo Biloba MicroTabs

Our BioG Ginkgo Biloba MicroTabs is the highest quality and the industry standard, as described in the EU Pharmacopeia and German Commission E monograph. This Ginkgo extract, known as EGB 761, is standardized at 24% Ginkgo flavonglycosides and 6% terpene lactones (3.5mg bilobalide and 3.7mg ginkgolides). The bilobalide and ginkgolides A,B,C and J are also balanced in specific ratios.

During a multi-staged production process, 1,000kg of dried Ginkgo leaves yield only 20kg of product, resulting in a concentration of active ingredients increased by a factor of up to 100. Properties of Ginkgo Biloba extracts has resulted in its widespread supplemental use to promote healthy cognitive function, memory, circulation; comfortable walking and social behavior to name a few.* (32,33)

Ginkgo biloba, the oldest living tree species, contains both flavonoids and terpenoids. Flavonoids have numerous and diverse properties including: anti-oxidation, anti-inflammation and the ability to modulate cell signaling pathways, (affecting protein and enzyme gene expression). Animal studies have shown that these flavonoids confer a protective effect on nerves, cardiac muscle, blood vessels and retinal vessels from oxidative stress and other insults. Terpenoids (ginkgolides) promotes healthy blood flow via dilating blood vessels and by reducing platelet adhesion.*

BioG Panax Ginseng MicroTabs
Panax Ginseng is a very popular herb that has been used in Traditional Chinese Medicine for centuries. Considered an adaptogenic herb, it has varied effects on the body to support a variety of physiologic functions. The plant contains saponins commonly referred to as ginsenosides, the active constituent that attributes to its beneficial properties. (34) It promotes healthy mental concentration, physical endurance, responses to stress and immune function to name a few.*

Research has revealed that these ginsenosides may specifically support healthy: HPA axis function, natural killer cell activity, antibody responses to vaccine challenge and phagocytosis, all promoting healthy immune responses. (35,36) In addition, in animal models genosides have been shown to promote: healthy glucose transport across cells (insulin sensitization) and healthy neurotransmission via ion channel transport support. (34).

34. Chemical and pharmacological studies of saponins with a focus on American ginseng. Yuan CS et al. J. Ginseng Res. 2010 Sep 1;34(3):160-167.

ROEHR™ Amino Acids & Carnitine
One gram of amino acid BioG MicroTabs provides 800mg of the specific amino acid. Only the L form of amino acids are constituents of protein. Persons with chronic renal and/or chronic liver disease should not consume high amounts of amino acids unless under the care of a health professional.

BioG N-Acetylcysteine MicroTabs
N-Acetylcysteine, a derivative of the amino acid L-cysteine, is a nonessential amino acid, and one of the few amino acids that contains sulfur. It is a component of the endogenous antioxidant glutathione and is also used to produce taurine. It can be converted into glucose and used as source of energy. In addition, it promotes the healthy protective lining of the GI tract, and immune cell to cell communication.

N-acetylcysteine is part of GTF (glucose tolerance factor) and is required for the proper utilization of vitamin B6. Therefore, this amino acid promotes important anti-oxidant protection, reduces oxidative stress, promotes healing, energy production and healthy cognition and focus.*

BioG L-Alanine MicroTabs
Alanine, a nonessential amino acid, is a major constituent of proteins, where the methyl side chain plays a space filling role, usually within the interior regions. Free alanine can transfer an amino group and become pyruvate, which is a key metabolic intermediate. It can be burned for energy or converted into fat, glucose, or glycogen. Also, alanine is present in prostate fluid and may play a role in supporting prostate health.*

BioG L-Arginine MicroTabs
L-Arginine, a non-essential amino acid, promotes healthy circulation. Since it is a component of the enzyme nitric oxide synthetase, L- arginine is essential for the production of NO (nitric oxide). NO is the endogenous mediator for regulating vascular tone. Healthy NO levels support optimal cardiovascular function and promotes dermal health.*
Arginine is also needed to increase protein synthesis and along with ornithine may promote human growth hormone synthesis. Arginine supplementation may be especially helpful when the body undergoes physical stressors (i.e. infection, burns, injury, and trauma).*

**BioG L-Asparagine MicroTabs**

Asparagine, a derivative of aspartic acid, is considered a non-essential amino acid. This amino acid plays an important role in the biosynthesis of glycoproteins and is also essential to the synthesis of a large number of other proteins.*

**BioG L-Carnitine MicroTabs**

Carnitine, a vitamin-like compound, is synthesized from the essential amino acid lysine. It is critical in the transport of long chain fatty acids into the mitochondria (“carnitine shuttle”), allowing the utilization of fatty acids for energy production. Carnitine also plays a role in the keto acid conversion of the branched chain amino acids, important during fasting, starvation and strenuous exercise. Carnitine may help promote cardiovascular and cardiac health, physical performance, renal health and age related memory impairment.*

**BioG L-Citrulline MicroTabs**

Citrulline exists primarily in the liver, where it is involved in the urea cycle to detoxify and excrete ammonia. This amino acid is formed in the urea cycle by the addition of carbon dioxide and ammonia to ornithine. Next, it is combined with aspartic acid to form arginosuccinic acid, which later is metabolized into the amino acid arginine. Therefore, L-Citrulline helps support the body’s natural systems for detoxification and athletic recovery.*

**BioG L-Glutamine MicroTabs**

Glutamine is the most abundant amino acid in the body and is involved in more metabolic processes than any other amino acid. Glutamine is converted into glucose when more glucose is required by the body as an energy source. It serves as a source of fuel for gastrointestinal epithelial cells. Without it, these epithelial cells would waste away; therefore L-Glutamine promotes healthy intestinal function. It is also used by white blood cells, thereby supporting immune health. Glutamine in combination with N-acetyl cysteine promotes the synthesis of glutathione, an important antioxidant.*

Glutamine is the only amino acid with the ability to easily cross the blood brain barrier. Combined, glutamine and glutamic acid are responsible for the vast majority of the amino nitrogen located in the brain. Glutamine is also essential for DNA synthesis, cellular energy, growth and repair. As such glutamine supplementation is popular among athletes to support muscle growth.*

* These statements have not been evaluated by the FDA. This product is not intended to diagnose, treat, cure, or prevent any disease.
BioG L-Glycine MicroTabs
Glycine, the simplest amino acid, is essential for the biosynthesis of nucleic acids as well as of bile acids, porphyrins, creatine phosphate, and other amino acids. On a molar basis, glycine is the second most common amino acid found in proteins and enzymes. Glycine may inhibit certain neurotransmitter signals in the central nervous system (as does gamma amino butyric acid). Glycine is also an important part of GTF (glucose tolerance factor). Present in considerable amounts in prostatic fluid, glycine may play a role in healthy prostate function as well.*

BioG L-Histidine MicroTabs
Histidine is the precursor of histamine, a potent vasodilating mediator that is released by mast cells and basophils during an acute allergic reaction. Histamine is also important in stimulating gastric secretion and neurotransmission.*

BioG L-Isoleucine MicroTabs
This branched-chain amino acid (BCAA), along with leucine and valine, are considered essential amino acids. BCAAs are needed for the maintenance of muscle tissue and appear to preserve muscle stores of glycogen. BCAAs also help prevent muscle protein breakdown during exercise.*

BioG L-Leucine MicroTabs
Leucine, like its cousins isoleucine and valine, is an amino acid that is found as a structural element on the interior of proteins and enzymes. As such, leucine is essential for growth, stimulates the production of muscle tissue, and protects the liver from the damaging effects of alcohol. Leucine also promotes the healthy regulation of blood-sugar levels, the growth and repair of muscle tissue, bones and skin; growth hormone production, wound healing as well as energy regulation. As an essential amino acid, it must be taken in the diet or via supplementation. It is recommended to be taken with the other two branched-chain amino-acids, isoleucine and valine.*

BioG L-Lysine MicroTabs
Lysine, an essential amino acid, is a basic building block of all protein. First isolated in 1889 from casein, lysine is one of the three basic (with respect to pH) amino acids. This polar amino acid is commonly found on the surfaces of proteins and enzymes, and sometimes appears in the active site. Since lysine is heat sensitive, it is not present in processed foods. Lysine helps regulate the pineal gland, mammary glands, and ovaries. Lysine is also important for growth and bone development, promotes calcium absorption, maintains nitrogen balances, promotes collagen synthesis and muscle tissue and maintains healthy immune function via the production of antibodies. Therefore, it is particularly useful for patients recovering from injuries and after surgery.*

BioG L-Methionine MicroTabs
Methionine, an essential amino acid, must be provided by the diet or supplementation. It is an important source of sulfur which is required by the body for normal metabolism and
growth. Methionine is particularly important in liver function (i.e. lipid metabolism) as is choline, inositol, and betaine (trimethylglycine). Methionine also plays a role in homocysteine metabolism as does folic acid, B6 and B12.*

**BioG L-Ornithine MicroTabs**

Ornithine, a non-essential amino acid, plays an important role in the urea cycle and is the precursor of the amino acids citrulline, glutamic acid, and proline. Another primary role of ornithine is being an intermediate in arginine biosynthesis, although this is due to its participation in the urea cycle. When taken with arginine, ornithine can promote lean body mass and strength with a strength training program. Ornithine may also promote healing/recovery from surgery, burns and other physical stressors.*

**BioG L-Phenylalanine MicroTabs**

Phenylalanine is an essential and the most commonly found aromatic amino acid. Phenylalanine plays a key role in the biosynthesis of other amino acids and some neurotransmitters. L-phenylalanine (LPA) can be converted to L-tyrosine and subsequently to L-dopa, norepinephrine, and epinephrine. LPA can also be converted (through a separate pathway) to phenylethylamine, a substance that occurs naturally in the brain and appears to elevate mood. (Persons with phenylketonuria must not supplement with phenylalanine).*

**BioG L-Proline MicroTabs**

Proline is a nonessential amino acid and can be synthesized from glutamic acid. Proline, a cyclic aliphatic amino acid, is a major component of collagen, the key protein for all connective tissue. As a key component of collagen, proline promotes healthy skin, joints, bones, tendons as well as cardiac muscle. Proline promotes healthy collagen formation and helps contain collagen degradation during the aging process. In the skin, collagen contains a modified form of proline, hydroxyproline which requires the presence of vitamin C.*

**BioG L-Serine MicroTabs**

Serine, a nonessential amino acid, is needed for the metabolism of fats and fatty acids, muscle growth, and a healthy immune system. It supports immune function via the production of immunoglobulins (antibodies), and is a constituent of brain proteins and nerve sheaths. It also promotes the healthy formation of cell membranes and muscle tissue.*

The methyl side chain of serine contains a hydroxyl group, making this one of two amino acids that is also an alcohol. Serine plays a major role in a variety of biosynthetic pathways including: pyrimidines, purines, creatine, and porphyrins. Serine is also found at the active site of trypsin and chymotrypsin, the “serine proteases”. These enzymes are important in protein digestion, catalyzing the hydrolysis of peptide bonds.*

**BioG Taurine MicroTabs**

Taurine, a nonessential, sulfur containing amino acid is found in high concentrations in white blood cells, skeletal muscles, the central nervous system as well as cardiac muscle. In adults, this amino acid can be manufactured from methionine in the body and from cysteine in the liver. Vitamin B6 must be present for these processes to occur. Taurine functions along with glycine and gamma-aminobutyric acid as an inhibitory neurotransmitter.*

Taurine is a key ingredient in bile, incorporated into one of the most abundant bile acids,
chenodeoxycholic acid where it serves to emulsify dietary lipids in the intestine, promoting fat digestion. Therefore, taurine promotes the absorption of fat soluble vitamins and healthy serum cholesterol levels. This amino acid also supports healthy potassium, calcium, and sodium utilization. Taurine, together with zinc, is also needed to support healthy vision.*

### BioG L-Threonine MicroTabs

Threonine is another alcohol-containing amino acid that cannot be produced by metabolism, is found in high concentrations in the heart, skeletal muscles and the central nervous system. This amino acid plays an important role along with glycine and serine in porphyrin metabolism. It helps maintain the proper protein balance in the body, as well as assist in the formation of collagen and elastin in the skin. In addition, it supports healthy immune function via the production of antibodies and by promoting healthy thymus activity.*

### BioG L-Tryptophan MicroTabs

Tryptophan, an essential amino acid, must be obtained from the diet or supplementation to maintain overall optimal health. The indole side chain of tryptophan is the nucleus of the important neurotransmitter serotonin, which is biosynthesized from tryptophan. The aromatic portion of tryptophan also serves as an ultraviolet marker for detection of this amino acid either separately, or incorporated into proteins and enzymes, via ultraviolet spectrophotometry. Tryptophan is required for the production of niacin (vitamin B3). It is used by the human body to produce serotonin, a neurotransmitter that is important for normal nerve and brain function. Serotonin is important in sleep, stabilizing moods, pain control, inflammation and intestinal peristalsis, to name a few.*

### BioG L-Tyrosine MicroTabs

A nonessential amino acid, tyrosine is a precursor for L-dopa, norepinephrine, epinephrine, and dopamine. Therefore, its role in neurotransmitter formation makes it vital to mental function as well as a healthy libido. Also, tyrosine is abundant in insulin as well as the enzyme papain and can be synthesized from the amino acid phenylalanine in the body. Furthermore, it is involved in the production of thyroxin, supporting normal thyroid function which regulates overall growth, metabolism, skin, and mood.*

### BioG L-Valine MicroTabs

Valine, an aliphatic amino acid, is closely related to leucine and isoleucine. These amino acids are extremely hydrophobic and are almost always found in the interior of proteins, determining the three-dimensional structure of proteins. They are also essential amino acids and must be obtained in the diet or via supplementation.*

The branched-chain amino acids (BCAAs) are leucine, isoleucine, and valine. BCAAs are needed for the maintenance of muscle tissue and appear to preserve muscle stores of glycogen. BCAAs also help prevent muscle protein breakdown during exercise.*

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