

Vital Substances

The Vital Substances Healy Database contains programs that correlate to amino acids, fatty acids, minerals and vitamins. Amino acids are the building blocks of proteins and are crucial to many different functions within the body. The same importance to functions within the body is true for fatty acids, minerals and vitamins as well. Many of these crucial nutrients are obtained through our diets, but given the way eating patterns have changed over the last 100-200 years (fast food, GMOs, etc.), many of us are deficient in some of these nutrients and the Healy can help.

There are nine essential amino acids (need to be ingested from food), and eleven non-essential amino acids (which your body can make). They prevent the loss of muscle, decrease mental fatigue, increase exercise performance, burn more fat, reduce muscle soreness, build muscle and other vital functions of the body.

ALPHA-LINOLENIC ACID

Lowers cholesterol. Anti-asthmatic properties. Anti-inflammatory effects. Protection against breast cancer. Supports bone health. Benefits for pregnant women including a longer duration of gestation and greater birth weight

ARACHIDONIC ACID

The endocannabinoids are created through arachidonic acids. They are the very important neurotransmitters that signal within the Endocannabinoid system. Improves intelligence in early neurological development. Shown to lower symptoms and slow progression of Alzheimer's disease. Aids in the development of infants. Supports muscle health, liver health, and brain health. Treats parasites. Regulates glucose.

ARSENIC OR ARSENICUM ALBUM

Despite serious safety concerns, arsenic is often used as a part of extremely diluted homeopathic remedies that are used for digestive disorders, food poisoning, sleep problems (insomnia), allergies, anxiety, depression, and obsessive-compulsive disorder (OCD). Arsenic is also contained in traditional Chinese medicine formulas and used for psoriasis; syphilis; asthma; joint pain (rheumatism); hemorrhoids; cough; itchiness; cancer; to reduce swelling (as an anti-inflammatory agent); and as a general tonic and pain-killer. In leukemia, arsenic trioxide increases death of cancer cells.

BORON

Relieves menstrual pain. Aids in wound healing. Supports bone health and helps to prevent arthritis. Enhances testosterone levels. Lowers plasma lipid levels. Can reduce fungal infections. Improves cognition.

CALCIUM

Bone and teeth development, growth, maintenance and health. Calcium helps regulate muscle contraction and maintains strength. Assists nerves to carry messages between the brain and other body parts. Helps blood clot, relaxes smooth muscle that surrounds the blood vessels. Assists vitamin D absorption. Helps blood vessels relax and constrict (which moves blood throughout the body), can lower blood pressure. Releases hormones and enzymes that help with various bodily functions.

CHLORINE

Chlorine is a component of all body secretions and excretions resulting from processes of building (anabolism) and breaking down (catabolism) body tissues. Levels of chlorine closely parallel levels of sodium intake and output, since a

primary source of both is sodium chloride, or common table salt. Chlorine is stored to a limited extent in the skin, subcutaneous tissues, and skeleton and constitutes two-thirds of the negatively charged ions (anions) in the blood. Chlorides (chlorine compounds) play an essential role in the electrical neutrality and pressure of extracellular fluids and in the acid-base balance of the body. Gastric secretion is composed of chlorides in the form of hydrochloric acid and salts.

CHROMIUM

Chromium is an essential trace mineral that can improve insulin sensitivity and enhance protein, carbohydrate, and lipid metabolism. Improved muscle growth or a decrease in fat mass. May be effective at improving the body's response to insulin or lowering blood sugar in those with diabetes.

COBALT

Useful in the body because it is a necessary component of vitamin B-12. Aids in repair of myelin, which surrounds and protects nerve cells. Great for MS. Helps in the formation of hemoglobin, which is the iron-containing metalloprotein found in red blood cells, which is used to transport oxygen around the body. Helps regulate and stimulate the production of some co-enzymes. Maintains the cardiovascular system. It reduces levels of homocysteine which is responsible for the damage of arterial walls which leads to arteriosclerosis.

COPPER

Make red blood cells. Keep nerve cells healthy and support your immune system. Forms collagen, a protein that helps make up your bones and tissues. Protect cells from damage. Absorb iron into your body. Turn sugar into energy.

DIHOMO-GAMMA-LINOLENIC ACID

Anti-inflammatory. Fights cell damage and regulates pain as part of the healing process. Prevents or treats a variety of health conditions, including asthma; atherosclerosis; cancer; diabetic neuropathy; eczema; chronic fatigue syndrome; depression; high-cholesterol; menopause symptoms; metabolic syndrome; psoriasis; and rheumatoid arthritis.

DOCOSAHEXAENOIC ACID

Reduces heart disease risk. May improve ADHD. Reduces the risk of early preterm births. Anti-inflammatory properties that may reduce the risk of chronic diseases that are common with age, such as heart and gum disease, and improve autoimmune conditions like rheumatoid arthritis, which causes joint pain. Supports muscle recovery after exercise. Supports eye health and may specifically improve dry eyes and diabetic eye disease (retinopathy). Known to lower the risk of several cancers, including colorectal, pancreatic, breast, and prostate. May help prevent or slow Alzheimer's disease. Lowers blood pressure and supports circulation. Aids normal brain and eye development in babies. Supports men's reproductive health. May reduce symptoms of depression.

EICOSAPENTAENOIC ACID

Lowers ADHD symptoms. Reduces symptoms of depression. Supports heart health. Reduces symptoms and inflammation caused by rheumatoid arthritis. Reduces hot flashes. Reduces menstrual cramping and pain. Reduces discomfort and sensitivity to cold for people with Raynaud syndrome. Reduces joint pain and fatigue from lupus. Positive effects have also been reported on kidney and lung disease, type-2 diabetes, anorexia nervosa, Crohn's disease, burns, osteoporosis, and early stages of colorectal cancer.

FLUORINE

Cognitive function, cardiovascular health. Bones, nails, hair teeth, cavities and gums. Liver health.

GAMMA-LINOLENIC ACID

Anti-inflammatory. Fights cell damage and regulates pain as part of the healing process. Prevents or treats a variety of health conditions, including asthma; atherosclerosis; cancer; diabetic neuropathy; eczema; chronic fatigue syndrome; depression; high-cholesterol; menopause symptoms; metabolic syndrome; psoriasis; and rheumatoid arthritis.

GLUTAMATE

Acts as an important neurotransmitter in the brain. Supports growth and development of the brain. Supports cognitive functions, including learning and memory. Supports the "gut-brain connection". Helps with bone formation and muscle tissue repair.

GLUTAMIC ACID

Improves memory and focus. Boosts the immune system. Supports prostate health. Detoxes the body. Improves athletic performance. Supports digestive health.

IODINE

It regulates hormones, fetal development, and keeps the thyroid healthy.

IRON

Iron is a mineral that the body needs for growth and development. Your body uses iron to make hemoglobin, a protein in red blood cells that carries oxygen from the lungs to all parts of the body, and myoglobin, a protein that provides oxygen to muscles. Your body also needs iron to make some hormones.

L-ALANINE

Supports muscle enhancement and boosts energy. Regulates blood sugar. Supports the immune system and prostate.

L-ARGININE

Relaxes blood vessels and may help with erectile dysfunction. Lowers blood pressure. Supports endothelium health which may reduce the chance of heart attack or stroke.

L-ASPARAGINE

Supports brain development and function. Supports liver function. Regulates mood and the central nervous system.

L-CARNITINE

Supports muscle repair and regulates muscle pain. Use is effective in the following conditions: serious kidney disease, hyperthyroidism, male infertility, and myocarditis (inflammation of the heart). Reduces memory issues in elderly people. Supports heart health. Supports weight loss and fat burning.

L-CYSTEINE

Antiaging properties. Supports immune function. Promotes detoxification from drug reactions and toxic chemicals. Increases male fertility. Balances blood sugar levels. Supports digestive health. Relieves symptoms of respiratory conditions. Helps to treat psychiatric disorders as well as addictions. Other uses include acne, angina, asthma, emphysema, colon cancer, and lung cancer.

L-GLUTAMINE

A building block of protein. Used for weight loss, fat burning, and building muscle. Treats leaky gut syndrome. Improves

gastrointestinal issues such as irritable bowel syndrome (IBS), Crohn's disease, ulcerative colitis, diverticulosis, and diverticulitis. Boosts brain health. Decreases muscle wasting. Improves athletic performance and exercise recovery. Suppresses insulin levels and stabilizes blood glucose.

L-GLYCINE

Helps build lean muscle mass. Prevents muscle wasting. Supports the production of human growth hormone. Boosts mental performance and memory. Helps to prevent ischemic strokes and seizures. Protects skin from signs of aging or cellular mutations. Protects collagen in joints and reduces joint pain. Supports flexibility and range of motion. Regulates blood sugar. Improves sleep. Reduces inflammation. Supports digestive health. Reduces allergic and autoimmune reactions. Supports production of red blood cells. Helps control symptoms of mental disorders.

L-HISTIDINE

Supports the growth and creation of blood cells and tissue repair. Helps to maintain the protective covering over nerve cells (myelin sheath). The body metabolizes histidine into histamine, which is crucial for immunity, reproductive health, and digestion. Studies show that it may also lower BMI and insulin resistance in obese women and women with metabolic syndrome. Deficiency can cause anemia, and low blood levels appear to be more common among people with arthritis and kidney disease.

L-ISOLEUCINE

Lowers glucose. Decreases muscle damage and soreness. Reduces fatigue and boosts performance.

L-LEUCINE

Helps regulate blood sugar levels and aids the growth and repair of muscle and bone. It is also necessary for wound healing and the production of growth hormones. Deficiency can lead to skin rashes, hair loss, and fatigue.

L-LYSINE

Builds muscle; maintains bone strength, aids in recovery from injury or surgery, regulates hormones, antibodies, and enzymes. Possible antiviral effects.

L-METHIONINE

Along with cysteine, methionine supports the health and flexibility of skin, and hair, and the strength of nails. Supports proper absorption of selenium and zinc as well as the removal of heavy metals like lead and mercury.

L-ORNITHINE

Supports muscle strength and health. Supports liver detoxification by assisting with eliminating extra nitrogen and other waste such as ammonia. Stimulates liver tissue regeneration.

L-PHENYLALANINE

Used to treat vitiligo. Produces dopamine. Supports learning, memory, and emotion. May reduce symptoms of depression. May aid in the treatment of Parkinson's disease. Relieves chronic pain. May promote weight loss.

L-PROLINE

Helps to heal wounds and repair skin. Supports digestive health. Helps to prevent joint pain. Supports the cardiovascular system. Supports healthy metabolism and fights inflammation. Supports toe formation of new collagen. Naturally prevents or treats cellulite. Treats leaky gut syndrome.

L-PYRROLYSINE

The largest naturally occurring amino acid.

L-SELENOCYSTEINE

Supports heavy metal removal. Boosts immunity. Supports healthy gut.

L-SELENOMETHIONINE

Supports healthy thyroid gland function, reproduction, DNA production, and protecting the body from infection. Supports healthy heart function. Supports cognitive function.

L-SERINE

Improves brain function. Fights fibromyalgia. Helps to relieve stress. Improves sleep. Boosts immune function.

L-TAURINE

Helps to maintain proper hydration and electrolyte balance in your cells. Helps to form bile salts for digestion. Regulates minerals such as calcium within cells. Supports the central nervous system and eyes. Regulates immune system and antioxidant function.

L-THREONINE

Supports healthy skin and teeth; is a component of tooth enamel, collagen, and elastin. Helps to aid fat metabolism and may benefit people with indigestion, anxiety, and mild depression.

L-TRYPTOPHANE

Produces melatonin in the brain (pineal gland), the gut, the retina, and immune cells. Improves sleep quality and helps with insomnia. May improve obstructive sleep apnea. Helps with PMS. Assists with smoking cessation. May reduce symptoms of depression. May reduce manic symptoms. May reduce appetite. Used for dementia. Increases exercise performance, likely due to increased pain tolerance.

L-TYROSINE

May boost cognition and alertness under stress or sleep deprivation. May improve mood. May increase thyroid hormones. May help with fibromyalgia. Used for patients with narcolepsy. Reduces addiction and substance withdrawal. May support weight loss.

L-VALINE

Essential for mental focus, muscle coordination, and emotional calm. Valine supplements are often used for muscle growth, tissue repair, and energy. Deficiency may cause insomnia and reduced mental function.

LAURIC ACID

Strong antimicrobial and antiviral properties; helps to treat or prevent infections, viruses, digestive disorders, and chronic disease. Positive outcomes for treating herpes simplex virus (HSV), chronic yeast infections, and HIV/AIDS and has been shown to kill staphylococcus Aureus. Also controls infections like bronchitis, candida virus, sexually transmitted diseases like gonorrhea, genital warts caused by human papillomavirus (HPS) or chlamydia, and intestinal infections caused by parasites. Helps fight antibiotic resistance. Supports heart health. Supports healthy skin and fights acne. Correlated with health and longevity in traditional populations.

LINOLEIC ACID

Supports heart health. Supports healthy brain function. Supports skin and hair health. Supports reproductive health. Boosts immune function. Protects bone density.

MAGNESIUM

About 60% of the magnesium in your body is found in bone, while the rest is in muscles, soft tissues and fluids, including blood. In fact, every cell in your body contains it and needs it to function. One of magnesium's main roles is acting as a cofactor or helper molecule in the biochemical reactions continuously performed by enzymes.

It's involved in more than 600 reactions in your body, including:

Energy creation: Helps convert food into energy.

Protein formation: Helps create new proteins from amino acids.

Gene maintenance: Helps create and repair DNA and RNA.

Muscle movements: Is part of the contraction and relaxation of muscles.

Nervous system regulation: Helps regulate neurotransmitters, which send messages throughout your brain and nervous system.

MANGANESE

Helps the body form connective tissue, bones, blood clotting factors, and sex hormones. It also plays a role in fat and carbohydrate metabolism, calcium absorption, and blood sugar regulation. Manganese is also necessary for normal brain and nerve function.

MOLYBDENUM

Your body uses molybdenum to process proteins and genetic material like DNA. Molybdenum also helps break down drugs and toxic substances that enter the body especially sulphites.

MYRISTIC ACID

Myristic acid is common in facial cleansers because of its ability to wash away oils. It also helps keep skin hydrated and youthful in appearance, like most fatty acids. Hair care: The ingredient is a hair conditioning agent, so it keeps hair hydrated and healthy.

OLEIC ACID

Lowers total cholesterol. Decreases blood pressure. Boosts mood and energy. Improves cognition. Anti-inflammatory properties. Improves response to insulin. May decrease obesity. Anti-aging benefits for your skin.

ORTHOSILICIC ACID

Sometimes referred to as soluble silica, orthosilicic acid is a dietary form of silicon, a mineral involved in the formation of collagen and bone. Orthosilicic acid is available in supplement form and is used to treat certain medical conditions and to boost hair and skin health.

OMEGA-3 FATTY ACIDS

Reduces symptoms of depression and anxiety. Supports eye health and can reduce the risk of macular degeneration. Can promote brain health during pregnancy and early life. Supports heart health. Can reduce symptoms of ADHD in children. Can reduce symptoms of Metabolic Syndrome. Anti-inflammatory. Can fight autoimmune diseases, including type-1 diabetes, autoimmune diabetes, multiple sclerosis, lupus, rheumatoid arthritis, ulcerative colitis, Crohn's disease,

and psoriasis. Can improve mental disorders. Can fight age-related mental decline and Alzheimer's disease. May help prevent cancer. Can reduce asthma in children. Can reduce fat in your liver. May improve bone and joint health. Can alleviate menstrual pain. May improve sleep. Supports healthy skin.

OMEGA-6 FATTY ACIDS

May reduce symptoms of nerve pain in people with diabetic neuropathy. May reduce symptoms of Rheumatoid arthritis and assist with related joint pain. May reduce symptoms of ADHD. Reduces blood pressure and supports heart health. Supports bone health.

PALMITIC ACID

Supports cellular functions. Helps to heal skin issues including rash, irritation and redness, dryness, and insect bites. Palmitoleic acid has been reported to have beneficial effects on insulin sensitivity, cholesterol metabolism, and hemostasis. It has been proposed that palmitoleic acid may prevent beta-cell apoptosis induced by glucose or saturated fatty acids.

PHOSPHORUS

It plays an important role in how the body uses carbohydrates and fats. It is also needed for the body to make protein for the growth, maintenance, and repair of cells and tissues. Phosphorus also helps the body make ATP, a molecule the body uses to store energy. Phosphorus works with the B vitamins.

POTASSIUM

Potassium is one of the most important minerals in the body. It helps regulate fluid balance, muscle contractions and nerve signals. What's more, a high-potassium diet may help reduce blood pressure and water retention, protect against stroke and prevent osteoporosis and kidney stones.

SULPHUR

Your body needs sulfur to build and fix your DNA and protect your cells from damage that can lead to serious diseases such as cancers. Sulfur also assists your body to metabolize food and contributes to the health of your skin, tendons, and ligaments.

SELENIUM

Selenium is a nutrient that plays a key role in maintaining thyroid hormone metabolism and DNA synthesis and protecting the body from oxidative damage and infection.

SODIUM

Sodium is an important nutrient for health. It plays a vital role in nerve and muscle function and helps your body maintain normal fluid balance.

TIN

Tin fluoride seems to prevent bacteria from forming, which might prevent plaque and cavities. Tin compounds also seem to prevent the nerves around the teeth from being stimulated, which can prevent tooth sensitivity. People apply tin to the skin for bad breath, dental cavities, sensitive teeth, gingivitis, plaque, and hair loss.

VANADIUM

Vanadium is used for treating diabetes, low blood sugar, high cholesterol, heart disease, tuberculosis, syphilis, a form of "tired blood" (anemia), and water retention (edema); for improving athletic performance in weight training; and for preventing cancer.

VITAMIN D2 (ERGOCALCIFEROL)

Vitamin D (D2) comes from plant sources, such as wild mushrooms, as well as fortified foods, such as milk or cereal products. Vitamin D2 as a prescription is used to treat hypoparathyroidism (decreased thyroid hormone secretion), vitamin D resistant rickets, and hypophosphatemia (low levels of phosphorus in the blood).

VITAMIN D3 (CHOLECALCIFEROL)

Vitamin D3 mainly comes from animal sources such as fish oil, fatty fish, liver, and egg yolks. When your skin is exposed to sunlight, it produces vitamin D3. It is known to help strengthen bones and muscles, boost immunity, increase mood, aid in weight loss, and improve heart function. A fat-soluble vitamin that helps your body absorb calcium and phosphorus for strong bones and treat and prevent bone disorders (such as rickets, osteomalacia). Vitamin D with calcium is used to treat or prevent bone loss (osteoporosis).

VITAMIN E (TOCOPHEROL)

Vitamin E is key for strong immunity and healthy skin and eyes. In recent years, vitamin E supplements have become popular as antioxidants for the immune system.

VITAMIN K1 (PHYLLOQUINONE)

K1 is mostly found in plant foods like leafy green vegetables. It makes up about 75–90% of all vitamin K consumed by humans. Is mainly used for clotting and blood disorders and strengthening brittle bones.

VITAMIN K2 MENAQUINONE)

All K vitamins are needed for proper blood coagulation, whereas vitamin K2 — and not K1 — is essential to build and maintain strong bones, as well as to avoid calcium deposits in the arteries and blood vessels. K2 is found in fermented foods and animal products, and is also produced by gut bacteria.

VITAMIN A (RETINOL)

A nutrient important to vision, growth, cell division, reproduction and immunity. Vitamin A also has antioxidant properties. Antioxidants are substances that might protect your cells against the effects of free radicals — molecules produced when your body breaks down food or is exposed to tobacco smoke and radiation.

VITAMIN B1 (THIAMINE)

Vitamin B1, or thiamin, helps prevent complications in the nervous system, brain, muscles, heart, stomach, and intestines. It is also involved in the flow of electrolytes into and out of muscle and nerve cells. It helps prevent diseases such as beriberi, which involves disorders of the heart, nerves, and digestive system.

VITAMIN B2 (RIBOFLAVIN)

Vitamin B2 helps break down proteins, fats, and carbohydrates. It plays a vital role in maintaining the body's energy supply. Riboflavin helps convert carbohydrates into adenosine triphosphate (ATP). The human body produces ATP from food, and ATP produces energy as the body requires it.

VITAMIN B3 (NICOTINIC ACID)

Every part of your body needs it to function properly. As a supplement, niacin may help lower cholesterol, ease arthritis, and boost brain function, among other benefits.

VITAMIN B5 (PANTOTHERMIC ACID)

Is one of the most important vitamins for human life. It's necessary for making blood cells, and it helps you convert the

food you eat into energy. Vitamin B5 is one of eight B vitamins. All B vitamins help you convert the protein, carbohydrates, and fats you eat into energy.

VITAMIN B6 (PYRIDOXINE)

Vitamin B6 helps maintain a normal amount of this amino acid in your blood. A stronger immune system. Vitamin B6 helps chemical reactions in the immune system, helping it work better. Eating foods rich in vitamin B6 will help your body guard against infection.

VITAMIN B7 (BIOTIN)

Vitamin B7 promotes appropriate function of the nervous system and is essential for liver metabolism as well. Biotin is commonly advised as a dietary supplement for strengthening hair and nails, as well as in skin care. It is suggested that biotin aids cell growth and the maintenance of mucous membranes.

VITAMIN B9 (FOLATE)

Folate (vitamin B-9) is important in red blood cell formation and for healthy cell growth and function. The nutrient is crucial during early pregnancy to reduce the risk of birth defects of the brain and spine.

VITAMIN C (ASCORBIC ACID)

also known as ascorbic acid, is necessary for the growth, development and repair of all body tissues. It's involved in many body functions, including formation of collagen, absorption of iron, the proper functioning of the immune system, wound healing, and the maintenance of cartilage, bones, and teeth.

VITAMIN B12 (COBALAMIN)

Vitamin B12 is a nutrient that helps keep your body's blood and nerve cells healthy and helps make DNA, the genetic material in all of your cells. Vitamin B12 also helps prevent megaloblastic anemia, a blood condition that makes people tired and weak.

ZINC

Zinc, a nutrient found throughout your body, helps your immune system and metabolism function. Zinc is also important to wound healing and your sense of taste and smell.