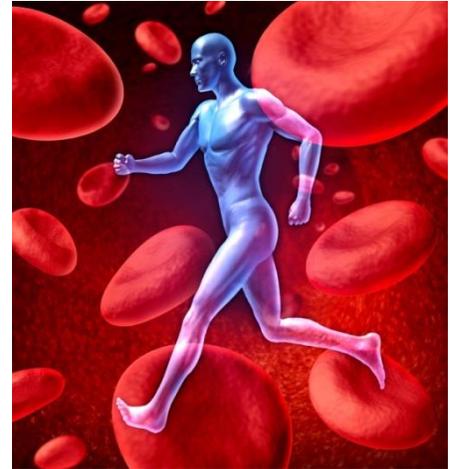


Natural Collection

Analysis of Cellular Function and Ingredients

Analysis of Cellular Function

One of the basic differences between unhealthy cells and normal healthy ones is their relationship to oxygen. As an example, cancer cells lack oxygen. They are 'anaerobic', meaning that they require an absence of free oxygen to survive. On the other hand, normal cells are 'aerobic', that is, they need oxygen in order to live and grow.



A Lipoic acid is a strong anti-oxidant, a crucial facilitator of many enzymes and is essential for aerobic respiration. Palladium is a rare precious metal similar to platinum that is an excellent catalyst with a strong affinity for hydrogen. When bound together, the metallo-organic complex becomes water and fat soluble, and can move throughout the body, even across blood-brain barrier.

A mitochondrion is a discrete structure in a cell that functions to generate energy for cellular activity; it is the cell's power plant. The healthy human cell in an oxygen-rich environment generates an appropriately strong electrical current in the cell that stimulates the mitochondrion. This results in the high production of energy during cellular respiration, when the chemical bonds of energy-rich molecules are converted into energy usable for life processes.

Amongst the most important of these functions is 'apoptosis', which relates to the cells own demise. Apoptosis is the process by which cells in a multicellular organism deliberately relinquish life as a means to benefit the entire organism. It is a series of biochemical reactions that bring about the natural cellular death and safely discards the remains of the dead cell. This capacity to facilitate an 'out with the old and in with the new' program is actually a programmed cellular function that is essential for the healthy development, growth and continued life.



In contrast, the anaerobic respiration of an unhealthy cell does not have the capacity to generate more than a low cellular electrical current. This results in a low production of energy (ATP) during cellular respiration. Compared to aerobic respiration, anaerobic respiration only produces about 5% as much ATP. Without sufficient amounts of energy, cellular activities are greatly diminished.

Interestingly, one of the activities that the damaged or mutated cell is no longer capable of carrying out is apoptosis. That is, it can't complete the natural cycle of cellular death. Without programmed cell death, the replication of damaged cells is carried out without control often resulting in tumors.

Analysis of Ingredients

Palladium

Palladium is a naturally occurring mineral with the elemental symbol Pd and an atomic number of 46. It is an excellent CATALYST for chemical reactions involving hydrogen and oxygen, such as the hydrogenation of unsaturated organic compounds.

Co-Q10 (Ubiquinone)

Coenzyme Q10 is a compound needed for the proper functioning of an enzyme, a protein that speeds up the rate at which chemical reactions take place in the body. Coenzyme Q10 is used to produce energy to fuel cell growth and maintenance. This nutrient is also thought to improve the function of mitochondria, the "powerhouses" that produce energy in cells.

Coenzyme Q10 is also an antioxidant, a substance that protects cells from highly reactive chemicals called 'free radicals' that can damage cells and their DNA. The highest amounts of coenzyme Q10 are typically found in the heart, liver, kidneys, and pancreas. Unfortunately, the levels of coenzyme Q10 normally decline with age, placing more importance on proper supplementation.

Coenzyme Q10 may have a place in the support of some neurological conditions as well according to studies conducted over the past 10 years.



a-Lipoic Acid

Alpha lipoic acid is a fatty acid found naturally inside every cell in the body. It's needed by the body to produce the energy for our body's normal functions. Alpha lipoic acid converts glucose (blood sugar) into energy. Other names for it include lipoic acid, thioctic acid, and ALA.

Alpha lipoic acid is also an antioxidant that neutralizes potentially harmful chemicals called 'free radicals'. What makes this nutrient unique is that it functions in water and fat, unlike the more common antioxidants vitamins C and E, and it appears to be able to recycle these antioxidants after they have been used up.

Alpha lipoic acid also increases the formation of glutathione - another important antioxidant that helps the body eliminate potentially harmful substances.

Alpha lipoic acid is made by the body and can be found in very small amounts in foods such as spinach, broccoli, peas, Brewer's yeast, brussel sprouts, rice bran, and organ meats.

Common uses for Alpha Lipoic Acid

1. Peripheral Neuropathy

Peripheral neuropathy can be caused by injury, nutritional deficiencies, chemotherapy or by conditions such as diabetes, Lyme disease, alcoholism, shingles, thyroid disease, and kidney failure. Symptoms can include pain, burning, numbness, tingling, weakness, and itching. Alpha lipoic acid is thought to work as an antioxidant, in both water and fatty tissue, enabling it to enter multiple parts of the nerve cell and protect it from damage.

2. Brain Function

Alpha lipoic acid can cross the blood-brain barrier, a wall of tiny vessels and structural cells, and pass easily into the brain. It is thought to protect brain and nerve tissue by preventing free radical damage.

3. Age-Related Conditions

As an antioxidant, alpha lipoic acid can neutralize free radicals which can damage cells. Free radical damage is thought to contribute to aging and chronic illness.

Vitamin D3 (Cholecalciferol)

Vitamin D is fat-soluble vitamin that is needed to be healthy and maintain strong bones. Known as the "sunshine vitamin," vitamin D3 is the body's preferred form of Vitamin D and is formed when skin is exposed to the sun's ultraviolet rays. It is also found in certain foods.

The main function of vitamin D is to help the body absorb calcium and phosphorus in the small intestine. Calcium is needed to support bone mineralization (hardening of bones), cell functions, and proper nerve and muscle function.

Vitamin D is used for conditions of the heart and blood vessels, including high blood pressure and high cholesterol. It is also used for diabetes, obesity, muscle weakness, multiple sclerosis, rheumatoid arthritis, chronic obstructive pulmonary disease (COPD), asthma, bronchitis, premenstrual syndrome (PMS), and tooth and gum disease.

Some people use vitamin D for skin conditions including vitiligo, scleroderma, psoriasis, actinic keratosis, and lupus vulgaris. It is also used for boosting the immune system, preventing autoimmune diseases, and preventing cancer.

Vitamin B12 (Cyanocobalamin)

Vitamin B12 (Cyanocobalamin) is a complex cobalt-containing compound that is found in the body, especially in the liver, and is essential to normal blood formation, neural function, and growth, and is used especially in treating pernicious and related anemia's.

In combination with folic acid, B-12 is involved in DNA synthesis, production of the myelin sheath that protects nerves and red blood cell production. As a methyl donor involved in homocysteine metabolism, B-12 also plays an important role in immune and nerve function.

Glucosamine Sulfate

An amino derivative of glucose that is found especially in polysaccharides such as chitin and in cell membranes.

Glucosamine helps keep the cartilage in joints healthy. But natural glucosamine levels drop as people age. This can lead to gradual deterioration of the joint. There's evidence that glucosamine sulfate supplements help counteract this effect. Specifically, glucosamine has been shown in studies to help ease the pain of mild to moderate osteoarthritis of the knee. Glucosamine may also help with other joint pain caused by osteoarthritis.

Glucosamine has also been used to treat rheumatoid arthritis and other conditions, such as inflammatory bowel disease, asthma, allergies, chronic venous insufficiency, sports injuries, temporomandibular joint problems (TMJ), chronic low back pain, and many others.

N-Acetylcystiene (NAC)

N-Acetylcystiene is an amino acid naturally occurring in the body. It is a potent antioxidant that is involved in maintenance of cholesterol and lipoprotein levels, and functions in combination with natural interferons in the body to enhance immune response. NAC is an amino acid derivative, which has been recognized as a powerful free radical scavenger.

This simple compound helps the body in a variety of ways. It enhances the activity of Vitamins C & E. It enhances the immune system, improves lung function, helps transport sterol hormones, helps prevent insulin resistance, and prevents ammonia formation within the body.
