



B.T.U. Magnesium

- Enhanced absorption and bioavailability
- Potential cardiovascular benefits
- Improved exercise performance and recovery

Magnesium, the fourth most abundant mineral in the human body, plays a crucial role in maintaining optimal neurological health and cellular function. This essential nutrient is involved in over 300 enzymatic reactions, making it indispensable for various physiological processes.

At the cellular level, magnesium is a key player in energy production. It is a cofactor for enzymes involved in ATP synthesis, the universal energy currency that powers cellular activities. Without adequate magnesium levels, cells may experience a decline in energy production, leading to impaired function and potentially contributing to fatigue and weakness.

Additionally, magnesium is vital for the proper functioning of the nervous system. It plays a role in the regulation of neurotransmitters, the chemical messengers responsible for transmitting signals between neurons. Magnesium helps to maintain the balance of excitatory and inhibitory neurotransmitters, such as glutamate and GABA, respectively. This balance is crucial for normal brain function, including mood regulation, sleep patterns, and cognitive processes.

Furthermore, magnesium is involved in the formation and maintenance of myelin, the insulating sheath that surrounds nerve fibers. Myelin facilitates efficient transmission of electrical signals along the neurons, ensuring proper communication within the nervous system. Inadequate magnesium levels may compromise myelin integrity, potentially leading to impaired nerve conduction and neurological disorders.

Magnesium also exhibits neuroprotective properties by acting as an antioxidant and reducing inflammation in the brain. Oxidative stress and inflammation are known contributors to various neurological conditions, such as Alzheimer's disease, Parkinson's disease, and stroke. By neutralizing free radicals and modulating inflammatory pathways, magnesium may help mitigate the damage caused by these processes.

In addition to its neurological benefits, magnesium plays a vital role in muscle function, bone health, and cardiovascular regulation. It is involved in the contraction and relaxation of muscles, calcium metabolism, and the maintenance of normal heart rhythm.

- Potential neuroprotective effects
- Fewer gastrointestinal side effects



Despite its importance, magnesium deficiency is relatively common, especially in individuals with poor dietary habits, those with certain medical conditions, or those taking certain medications. Symptoms of magnesium deficiency can include muscle cramps, fatigue, anxiety, and difficulty sleeping.

B.T.U. Magnesium

B.T.U. Magnesium is formulated for maximum absorption and activation of magnesium with the inclusion of vitamin D, L-glutamine, and vitamin B6 (pyridoxal 5 phosphate).

Vitamin D (cholecalciferol)

Vitamin D (cholecalciferol) is essential for promoting the absorption of magnesium from the digestive tract. It works by enhancing the active transport of magnesium across the intestinal cells. Without sufficient vitamin D levels, magnesium absorption can be impaired, leading to potential deficiency. Furthermore, vitamin D helps to maintain adequate magnesium levels in the body by regulating its reabsorption in the kidneys. It does this by stimulating the production of a specific magnesium-binding protein in the kidney tubules, preventing excessive excretion of magnesium through urine.

L-glutamine

L-glutamine, a conditionally essential amino acid, plays a supporting role in magnesium absorption and utilization in the body. The primary mechanism by which L-glutamine facilitates magnesium absorption is through its involvement in maintaining the integrity and function of the intestinal lining. L-glutamine is a preferred fuel source for the rapidly dividing cells that line the intestines, known as enterocytes. By providing energy to these cells, L-glutamine helps preserve the structure and function of the intestinal barrier. This, in turn, allows for optimal nutrient absorption, including that of magnesium. Additionally, L-glutamine has been shown to stimulate the activity of specific transporter proteins responsible for magnesium uptake in the intestinal cells. These transporters, such as TRPM6 and TRPM7, play a crucial role in the active absorption of magnesium from the digestive tract. Furthermore, L-glutamine may also contribute to magnesium homeostasis by influencing the activity of the kidneys. It has been suggested that L-glutamine

may help regulate the reabsorption of magnesium in the renal tubules, preventing excessive excretion of this essential mineral through urine.

It is important to note that while L-glutamine supports magnesium absorption and utilization, it does not directly participate in the absorption process itself. Rather, it acts as a supportive factor by maintaining the integrity of the intestinal lining and promoting the activity of specific magnesium transporters.

Vitamin B6

Vitamin B6 (pyridoxal 5 phosphate) is a cofactor for several enzymes involved in magnesium metabolism and utilization within cells. It plays a crucial role in the activation of magnesium, allowing it to participate in various biochemical reactions. Specifically, vitamin B6 is required for the conversion of magnesium into its biologically active form, which can then bind to enzymes and facilitate various cellular processes, such as energy production and protein synthesis. Without adequate levels of vitamin B6, the body may not be able to effectively utilize the magnesium that is available, leading to functional magnesium deficiency despite adequate intake.

Two Superior Forms of Magnesium

Magnesium taurinate is a unique form of magnesium that offers potential advantages over other common magnesium supplements. Here are some key points regarding the potential benefits of magnesium taurinate:

1. Enhanced absorption and bioavailability:

Magnesium taurinate is a chelated form of magnesium, where the mineral is bound to the amino acid taurine. This chelation can improve the absorption and bioavailability of magnesium in the body compared to some other forms, such as magnesium oxide or magnesium sulfate. The taurine component may facilitate better intestinal absorption and cellular uptake of magnesium.

2. Potential cardiovascular benefits:

Taurine, an organic compound found in various tissues, has been associated with cardiovascular health benefits. It may help regulate blood pressure, improve endothelial function, and exert antioxidant and anti-inflammatory effects. When combined with magnesium, which is also beneficial for heart health, magnesium taurinate may offer synergistic benefits for cardiovascular function.

3. Improved exercise performance and recovery:

Both magnesium and taurine have been studied for their potential roles in enhancing exercise performance and recovery. Magnesium is involved in energy production and muscle function, while taurine has been shown to enhance exercise capacity and reduce muscle damage. The combination of these two compounds in magnesium taurinate may provide advantages for athletes and active individuals.

4. Potential neuroprotective effects:

Taurine has been associated with neuroprotective properties, and its combination with magnesium, which is essential for neurological health, may offer additional benefits for brain

function and cognitive performance.

5. Fewer gastrointestinal side effects:

Some forms of magnesium, such as magnesium oxide or magnesium chloride, can cause digestive discomfort or laxative effects, especially at higher doses. Magnesium taurinate may be better tolerated by individuals with sensitive digestive systems, as taurine may help mitigate potential side effects.

Magnesium bisglycinate works synergistically with magnesium taurinate. It is used for its enhanced bioavailability and absorption, better tolerance with fewer gastrointestinal side effects like diarrhea, even at higher doses, increased solubility making it more easily dissolved and absorbed, and neutral electrical charge which may also contribute to its better absorption and tolerance.

Suggested Use

Take 3 capsules daily or as recommended by your health care professional.

Store in a cool, dry place with the lid tightly closed. Keep out of reach of children.

Warning

Consult your physician prior to using this product if you are pregnant, nursing, taking medication or have a medical condition.

Other ingredients

Microcrystalline Cellulose (USP), Vegetable Capsule (cellulose, purified water)

No artificial colors, artificial flavors, milk or milk derivatives, or sodium added.

Supplement Facts		
Serving Size 3 Capsules		
Servings Per Container 30		
	Amount Per Serving	%DV
Vitamin D (as Cholecalciferol)	10 mcg (400 IU)	50%
Vitamin B6 (as Pyridoxal 5 Phosphate)	10 mg	588%
Magnesium (as Magnesium Taurinate, Albion® Magnesium Bisglycinate)	200 mg	48%
L-Glutamine	500 mg	†
† Daily Value (DV) not established		

† These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.