

# Acti-Mag Plus™

Powdered Magnesium Formula to  
Optimize the Stress Response

- Easily absorbed form of magnesium
- 400 mg of magnesium per serving
- Pleasant berry taste
- Added taurine, organic beetroot juice, B-vitamins, bamboo extract

**Acti-Mag Plus™** is a magnesium formulation specifically designed to support the body's natural relaxation response and optimize energy levels. An essential mineral, magnesium plays a critical role in human biochemistry and general health. Present in all cells of the body, magnesium is involved in hundreds of enzymatic reactions, including protein synthesis, muscle and nerve function, blood glucose control and blood pressure regulation.<sup>(1,2,3,4)</sup> Magnesium is also necessary for glycolysis, which is the first step in converting carbohydrates into energy.<sup>(5)</sup> Its role in oxidative phosphorylation, as an enzyme cofactor for processes that produce ATP, highlights its importance in maintaining healthy energy levels.



In addition, magnesium contributes to the structural development of bone and is necessary for the synthesis of DNA, RNA and glutathione. It also plays a role in the active transport of calcium and potassium ions across cell membranes, critical to nerve impulse conduction, muscle contraction, neurological health and cardiac function.<sup>(3)</sup> Second to potassium, magnesium is the second most abundant intracellular cation in the body.<sup>(6)</sup>

A serving of **Acti-Mag Plus™** provides 400 mg of easily absorbed magnesium combined with key nutrients such as taurine, beetroot juice, B-vitamins and bamboo extract (a rich source of organic silica) specially formulated to support bone health, digestion, cardiovascular function, the maintenance of healthy blood sugar levels, a healthy relaxation response, bowel and kidney function, and optimal energy levels.



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## Magnesium Glycerophosphate

**Acti-Mag Plus™** uses magnesium glycerophosphate due to its high rate of absorption. Some forms of magnesium are soluble at acidic pH levels, which means magnesium can free up when exposed to gastric juices. It then binds with other compounds, rendering the substance insoluble. Magnesium glycerophosphate only becomes soluble once it reaches the intestinal tract and, as a result, can be absorbed rather than eliminated as waste.

Magnesium salts can also attract water and create what is called a “hydration shell.” This compound of hydrated magnesium can become a barrier to absorption and could result in laxative effects.

Magnesium glycerophosphate, on the other hand, is protected from forming such a hydration shell, so will be less likely to produce laxative effects. Magnesium glycerophosphate is also the form of oral magnesium supplementation recommended by the Edinburgh Renal Unit for patients in need of fluid and electrolyte replacement.<sup>(7)</sup>

## Taurine

**Acti-Mag Plus™** supplies 200 mg of taurine.

Taurine is a sulfur-containing amino acid that plays critical biological roles such as conjugation of bile acids, antioxidation, osmoregulation, membrane stabilization and calcium signaling. It is essential for cardiovascular, musculoskeletal, retinal and central nervous system functioning. One study found taurine to be a potent activator of extrasynaptic GABA(A) receptors in the thalamus. Taurine can inhibit

ventrobasal neurons in the thalamus via activation of extrasynaptic GABA(A)-Rs, which may contribute to the relaxing effects of taurine.<sup>(8)</sup> One recent animal study showed that taurine inhibits protein carboxylation and dampens the cortisol response following acute stress in zebrafish. These results show taurine’s protective role against stress-induced behavioral and biochemical changes.<sup>(9)</sup>

A soothing mix of taurine and magnesium normalizes cell communication. Taurine promotes absorption by fixing magnesium in the cell, maximizing intracellular magnesium concentration.

In the WHO-CARDIAC Study, taurine and magnesium excretions were inversely related with cardiometabolic risks such as obesity, hypertension and hypercholesterolemia.<sup>(10)</sup>

In another study, taurine and magnesium supplementation was found to increase endothelial progenitor cells (EPCs), which are pivotal in the support of cardiovascular health and prolonging lifespan. Oxidative stress markers were evaluated, and this combination of taurine and magnesium demonstrated decreased free radical activity, showing a high degree of antioxidation.<sup>(11)</sup>

## Whole Organic Beetroot Juice

Beetroot juice is a natural energy booster. Due to its high concentration of nitrates, red beets have a positive influence on performance capacity, fatigue, and stamina. In the body, nitrates are converted into nitric oxide (NO), which increases muscle



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oxygenation and the contractile force of the muscles. In one study, dietary inorganic nitrates had profound effects on basal mitochondrial effects in humans.<sup>(12)</sup> Consumption of nitrate-rich beetroot juice was also found to improve VO<sub>2</sub>max, vVO<sub>2</sub>max and V<sub>peak</sub> in recreational runners in a randomized, double-blind crossover study addressing the effect of beetroot juice on maximum oxygen uptake.<sup>(13)</sup>

### **B-Vitamins**

A full-spectrum vitamin B complex is included in **Acti-Mag Plus™** to help support muscles and nerves. Thiamin, riboflavin, niacin, vitamin B<sub>6</sub>, folate and pantothenic acid are indispensable for body's energy supply, and for the optimal functioning of the muscles and nervous system. This group of water-soluble vitamins also stimulates the production of neurotransmitters.

### **Bamboo Shoot Extract**

Controlling intracellular calcium-magnesium balance increases "stress resistance". Bamboo is a rich source of organic silicon, a trace element that promotes the absorption of calcium by the skeleton and restores the physiologically normal calcium-magnesium balance.<sup>(14)</sup> It does this by stimulating the calcium absorption by osteoblasts.<sup>(15)</sup> As a result, sufficient magnesium remains in the cell. Because low cellular magnesium levels increase stress sensitivity, optimizing magnesium levels is the best support when experiencing stress.

### **Magnesium Deficiency**

Although overt magnesium (Mg) deficiency is not common in healthy individuals who are consuming a balanced diet, the United States Department of Agriculture (USDA) has reported that 57 percent of the U.S. population does not meet the recommended dietary allowance (RDA) for levels of Mg.<sup>(16)</sup> Some people are at a greater risk for magnesium deficiency due to lower intakes or medical conditions that limit magnesium absorption from the gut or increase magnesium loss.

Having one or more of the following conditions puts people at greater risk of magnesium deficiency:

- Gastrointestinal diseases
- Type II Diabetes
- Alcohol Dependence

### **Recommendation:**

One (1) scoop mixed with six (6) ounces of water, or beverage of your choice, each day as a dietary supplement or as otherwise directed by a healthcare professional.



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Acti-Mag Plus™ is available in a 7 ounce bottle (#1748)

<b>Supplement Facts</b>		
Serving Size: 5g (approx. one (1) scoop)		
Servings Per Container: 40		
	Amount Per Serving	% Daily Value
Thiamin (as cocarboxylase chloride)	1.1 mg	92%
Riboflavin (as riboflavin-5-phosphate)	1.4 mg	108%
Niacin (as niacinamide)	16 mg	100%
Vitamin B6 (as pyridoxal-5-phosphate)	1.4 mg	82%
Folate (as (6S)-5-methyltetrahydrofolic acid, glucosamine salt)	200 mcg DFE	50%
Pantothenic acid (as D-calcium pantothenate)	6 mg	120%
Magnesium (from magnesium glycerophosphate)	400 mg	95%
Organic beet juice (Beta vulgaris)(whole)	425 mg	*
Bamboo (shoot)(extract)	200 mg	*
Taurine	200 mg	*

\* Daily Value not established

Other ingredients: Citric acid, natural flavors and organic Stevia rebaudiana leaf extract.

**This product is gluten, dairy, MSG and GMO free.**

**RECOMMENDATION:** One (1) scoop mixed with six (6) ounces of water, or beverage of your choice, each day as a dietary supplement or as otherwise directed by a healthcare professional.

**KEEP OUT OF REACH OF CHILDREN**  
 Store in a cool, dry area. Sealed with an imprinted safety seal for your protection.  
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