

MAGNESIUM-L-THREONATE FOR HEALTHY BRAIN FUNCTION*

Supplement Facts

Serving Size: 3 Capsules
Servings Per Container: 30

	Amount Per Serving	%Daily Value
Magnesium (from 2,000 mg Magtein® Magnesium L-Threonate)	144 mg	34%

Other ingredients: Hypromellose (capsule), microcrystalline cellulose, vegetable stearate, silicon dioxide.

Does not contain gluten.

SUGGESTED USE: 3 CAPSULES PER DAY OR AS DIRECTED BY YOUR HEALTHCARE PROFESSIONAL.

WARNING: IF YOU ARE TAKING MEDICATION, HAVE A MEDICAL CONDITION OF AN UPCOMING MEDICAL PROCEDURE, OR ARE PREGNANT OR NURSING, CONSULT A PHYSICIAN BEFORE USING. IF ADVERSE REACTIONS OCCUR, DISCONTINUE USE & CONSULT YOUR HEALTHCARE PRACTITIONER.

- Only magnesium supplement to cross the blood-brain barrier.*
- Helps enable healthy synaptic function, neurotransmitter synthesis & activity by increasing brain magnesium levels.*
- Researched to help support memory, cognitive function, mental acuity, sharpness and attention.*

Throughout adulthood, a gradual reduction in our ability to carry out everyday mental tasks and processes is common. Cognitive function peaks around age 25 on average but may be reduced by up to 50% at age 80. Cognitive decline affects not only word recall, memory and thinking speed, but also sleep quality, mood and stress levels. Supplementation with magnesium-L-threonate (**Magtein®**) is among the important interventions researched to help protect and enhance cognitive health.

MAGTEIN® is a patented chelate of elemental magnesium and L-threonic acid, a vitamin C metabolite. Combined, they form magnesium-L-threonate (MgT), a unique magnesium compound capable of crossing the blood brain barrier to effectively increase magnesium levels in the brain. Animal research comparing MgT to other bioavailable forms of magnesium (e.g. citrate, glycinate) found that magnesium-L-threonate was the only supplemental form of magnesium which significantly raised magnesium levels in the brain and cerebrospinal fluid.

Neurons communicate with each other across spaces called *synapses*. Both the number or density and the “plasticity” of synaptic connections are critical to our ability to store new information in neural networks. Because synaptic health depends on magnesium, low brain magnesium may play a role in cognitive impairment. The synthesis of neurotransmitters such as serotonin, melatonin, and dopamine (regulators of sleep, mood and stress levels) also requires brain magnesium. Magnesium-induced deficits in these neurotransmitters leads to sleep disturbances, increased stress and depression, all of which may in turn decrease magnesium levels and further impact synaptic density and function. This vicious cycle can be interrupted by replenishing the brain with the magnesium it needs.

Synaptic decline has been correlated with age-dependent memory decline in rats, and is a major pathological hallmark of Alzheimer’s disease. Low brain magnesium levels, also common in Alzheimer patients, are associated with decreased synaptic density, plasticity and function. Elevating brain magnesium with MgT has been shown to help enhance neural synapses, strengthen cholinergic function and decrease oxidative stress. Human clinical trials suggest the benefits of **Magtein®** supplementation may include helping to improve memory and executive function, helping to reverse age-related cognitive decline, and helping to improve symptoms of attention deficit hyperactivity disorder (ADHD).

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* 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.



A 2016 randomized, double-blind, placebo-controlled trial involving 44 older adults with cognitive impairment examined the impact of MgT supplementation on overall cognitive ability based on four separate indices—working memory, episodic memory, attention, and executive function—over a 12-week period. Subjects in the treatment group were given 1.5 or 2 grams of magnesium-L-threonate per day, based on body weight (50-70 kg or 70-100 kg, respectively). By the 6th week, patients in the treatment group experienced a significant increase in overall cognitive ability, most notably in the domains of executive function and working memory, compared to those in the placebo group. Results were even more pronounced after 12 weeks, particularly in the domain of episodic memory. It was concluded that MgT supplementation resulted in an improvement in multiple individual cognitive domains, and that it was able to reverse the equivalent of 9 years of brain aging, on average. (Some subjects exhibited a 30 or 40 year reversal in brain aging.)

An 8-week open label trial conducted jointly by Stanford University and Banner Alzheimer's Institute explored the effect of daily supplementation with 1800 mg magnesium-L-threonate plus vitamins C and D on fifteen seniors (aged 60 and above) diagnosed with mild to moderate "probable" Alzheimer's disease. In this study, cognitive performance was measured at baseline and at the end of the intervention using the Mini-Mental State Examination or MMSE, a screening tool which measures the degree and severity of cognitive impairment and dementia. After 8 weeks of treatment with the magnesium-L-threonate and vitamin combination, subjects showed a dramatic and significant mean MMSE score increase of 1.57 from a mean baseline of 23, enough to lift them out of the "cognitive impairment" zone.

Magnesium-L-threonate also has been studied in people with ADHD. A 12-week open label clinical study performed at Massachusetts General Hospital and published in 2020 gave up to 1 gram of MgT, two times per day, to a small group of adults diagnosed with ADHD. Nearly half the patients responded with a significant 25% or greater reduction in ADHD symptoms, accompanied by a favorable and significant 5%-12% increase in IQ scores.

A 3 capsule serving of Magtein® provides a clinically relevant 2 grams of magnesium-L-threonate to increase brain magnesium levels and help enhance overall cognitive function, memory, focus and attention in an aging population.

REFERENCES

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