

Preclinical Evidence for Elevation of Brain Magnesium with E-Z Mg™

Scientists at the Standard Process Nutrition Innovation Center set out to evaluate whether E-Z Mg™ could influence magnesium levels in the brain and, in turn, affect behavioral outcomes. E-Z Mg™ is a proprietary blend of organic buckwheat and Swiss chard extracts, formulated to deliver plant-based, multiform magnesium. Both crops are rich sources of magnesium.^{1,2}

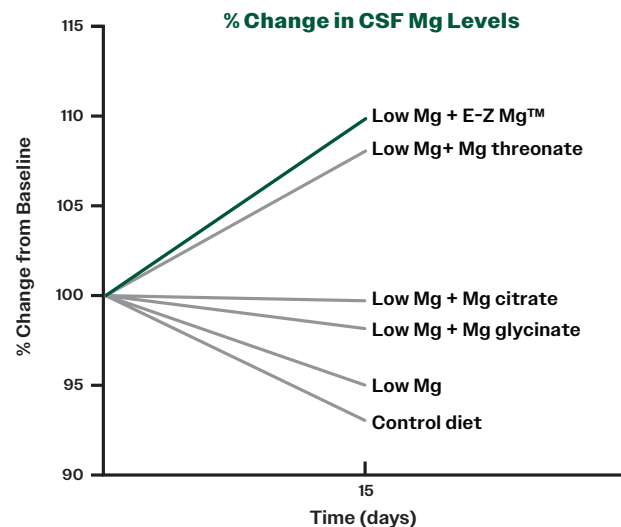
Magnesium is a regulator of biochemical processes that are central to brain health and even a moderate reduction in dietary magnesium can result in physiological changes, including neurological imbalances.^{3,4} However, many of the commonly available magnesium supplements demonstrate poor delivery to the central nervous system.⁵

Study Details

To better understand the effects of E-Z Mg™ on brain magnesium levels and central nervous system function, researchers conducted two studies, utilizing an animal model of magnesium deficiency. In the first study, animals underwent behavioral testing before and after supplementation with various magnesium compounds, including E-Z Mg™. In a second study, magnesium levels were measured in cerebrospinal fluid (CSF) before and after supplementation with magnesium compounds, including E-Z Mg™. This measure was chosen because it more accurately represents the brain's extracellular environment than serum magnesium measurements.

Results

In an animal model, a low-magnesium diet (Low Mg) significantly reduced magnesium levels in cerebrospinal fluid (CSF) and red blood cells and was associated with anxiety-like behavior. **After 14 days of supplementation, E-Z Mg™ increased CSF magnesium levels by 14.5% compared to the Low Mg diet and outperformed other common forms, including magnesium glycinate and citrate.**



Read the Study

El-Khodori, B.F., *et al.* (2022). Elevation of brain magnesium with Swiss chard and buckwheat extracts in an animal model of reduced magnesium dietary intake. *Nutr Neurosci*, 25(12):2638.

1. Gamba, M., *et al.* (2021). *Crit Rev Food Sci Nutr*, 61(20):3465; 2. Klepacka, J., Nadja, A., Klimek, K. (2020). *Foods*, 9:832; 3. Kirkland, A.E., Sarlo, G.L., Holton, K.F. (2018). *Nutrients*, 10(6):730; 4. Cazzola, R., *et al.* (2020). *Heliyon*, 6 (11):e05390; 5. Slutsky, I., *et al.* (2010). *Neuron*, 65(2):165.