



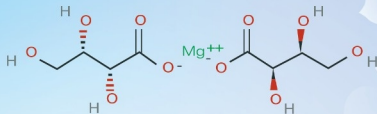
Kangcare

L-苏糖酸镁

CAS号: 778571-57-6

化学式: $C_8H_{14}MgO_{10}$

分子量: 294.5



描述

L-苏糖酸镁 (MgT) 是镁的独特有机螯合形式, 由 L-苏糖酸与镁离子络合而成, 是目前极少数可高效穿透血脑屏障的镁补充剂。普通无机镁难以进入脑组织, 无法有效提升脑内镁浓度; 而 L-苏糖酸镁可特异性靶向脑部, 精准提升大脑神经元镁水平, 生物利用度远高于传统镁盐。

规格

L-苏糖酸镁95%

功能

1突破血脑屏障, 提升脑内镁水平

镁是大脑300多种生化反应的关键辅酶元素, L-苏糖酸镁可穿透血脑屏障, 快速提升脑组织中的镁浓度, 为神经细胞提供充足的镁元素支持。

2改善认知功能, 增强记忆力与专注力

镁离子是N-甲基-D-天冬氨酸 (NMDA) 受体的天然电压依赖性阻断剂, 通过提升突触间隙的镁浓度, 优化NMDA受体的功能, 防止兴奋性毒性, 同时促进长时程增强 (LTP) 的发生, 这是学习和记忆的细胞基础。MgT能够刺激成年海马齿状回区的神经干细胞增殖和分化, 增加海马区突触密度, 逆转与衰老或阿尔茨海默病相关的突触丢失, 并能通过抑制前咽缺陷蛋白-1 α / β (APH-1 α / β) 的表达, 减少 γ -分泌酶活性, 抑制 β -淀粉样蛋白的产生与聚集。此外, MgT还能上调NMDA受体NR2B亚基的表达, 该亚基与突触可塑性和记忆形成密切相关。体外实验表明, 镁离子升高可通过ERK/CREB信号通路促进神经元分化, 同时抑制胶质细胞分化, 从而优化神经网络的结构完整性, 并能抑制小胶质细胞中白介素-1 β (IL-1 β) 的表达, 减轻神经炎症反应。

3舒缓神经焦虑, 改善睡眠质量

镁通过调节神经递质平衡, 增强GABA (抑制性神经递质) 作用, 降低焦虑、烦躁情绪, 改善睡眠质量。

优势

- 针对大脑的靶向给药, 生物利用度极高
- 对胃肠道温和, 不会产生其他镁盐常见的泻药副作用
- 吸收率高, 不受胃酸水平影响

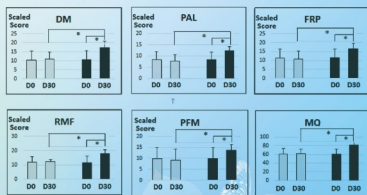


图1. L-苏糖酸镁+PS对认知功能的显著影响, *; p值 ($p < 0.001$); 灰色框: 安慰剂; 黑色框: L-苏糖酸镁+PS. D0 = 第0天, D30 = 第30天
缩写: CMT: 临床记忆测试; DM: 定向记忆; PAL: 配对联想学习; FRP: 图片自由回忆; RMP: 无意义图形特征识别记忆; MQ: 记忆高。

推荐摄入量: 1.5-3g/天

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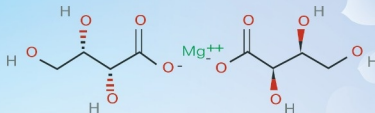
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Magnesium L-Threonate

CAS number: 778571-57-6

Chemical formula: $C_8H_{14}MgO_{10}$

Molecular weight: 294.5



Description

Magnesium L-Threonate (MgT) is a unique organic chelated form of magnesium, formed by the complexation of L-threonic acid with magnesium ions. It is currently one of the very few magnesium supplements capable of efficiently crossing the blood-brain barrier. Conventional inorganic magnesium salts have difficulty penetrating brain tissue and cannot effectively raise intracellular magnesium concentrations in the brain. In contrast, Magnesium L-Threonate specifically targets the central nervous system, precisely elevates magnesium levels in brain neurons, and exhibits a bioavailability far superior to that of traditional magnesium salts.

Specification

Magnesium L-Threonate 95%

Functions

1. Blood-brain barrier penetration & brain magnesium elevation

Magnesium is an essential enzymatic cofactor for over 300 biochemical reactions in the brain. Magnesium L-Threonate efficiently crosses the blood-brain barrier, rapidly increases magnesium concentrations in cerebral tissue, and ensures adequate magnesium supply to neural cells.

2. Cognitive function enhancement: memory & concentration improvement

Magnesium ion acts as an endogenous voltage-dependent blocker of the N-methyl-D-aspartate (NMDA) receptor. By elevating magnesium concentration within the synaptic cleft, it modulates NMDA receptor function to avert excitotoxicity while facilitating long-term potentiation (LTP), the fundamental cellular mechanism underlying learning and memory formation. MgT stimulates proliferation and differentiation of neural stem cells in the dentate gyrus of the adult hippocampus, elevates hippocampal synaptic density and reverses age- or Alzheimer's disease-associated synaptic loss. Meanwhile, it downregulates the expression of anterior pharynx-defective-1 α (APH-1 α), curbs γ -secretase activity and impedes the generation and aggregation of amyloid-beta peptide. In addition, MgT upregulates the expression of the NR2B subunit of the NMDA receptor, a subunit closely implicated in synaptic plasticity and memory consolidation. In vitro studies demonstrate that elevated magnesium triggers neuronal differentiation via the ERK/CREB signaling cascade while restraining glial cell differentiation, thereby preserving the structural integrity of neural networks. It also suppresses interleukin-1 β (IL-1 β) production in microglia to mitigate neuroinflammation.

3. Anxiety relief & sleep quality improvement

Magnesium regulates neurotransmitter balance, potentiates the action of GABA (the primary inhibitory neurotransmitter in the brain), reduces anxiety and irritability, and promotes deeper, more restful sleep.

Advantages

- Brain-targeted delivery with exceptional bioavailability
- Gentle on the gastrointestinal tract, no common laxative side effects associated with other magnesium salts
- High absorption rate independent of stomach acid levels

Recommended Dosage: 1.5 ~ 3g per day

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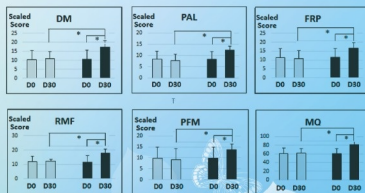


Figure 1. Significant effects of Magnesium L-Threonate+PS on cognitive function. * p-value ($p < 0.001$); gray box: placebo; black box: Magnesium L-Threonate+PS. D0 = Day 0, D30 = Day 30

Abbreviations: CMT: Clinical Memory Test; DM: directed memory; PAL: paired-association learning; FRP: free recall of pictures; RMF: recognition of meaningless figures features memory; MQ: memory quotient.

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