

Cal/Mag Effervescent



Clinical Benefits

- Provides All Forms of Highly Absorbable Calcium, Magnesium, and Potassium
- Helps Maintain Healthy Bones, Blood Pressure, Glucose, and Insulin Levels
- Promotes Optimal Glutathione Status and Nervous System Health

Cal/Mag Effervescent is a powdered blend of water-soluble calcium, magnesium, potassium, and glycine designed to quickly restore essential nutrient and mineral reserves by offering all the naturally occurring Krebs cycle chelates for maximum absorption. The Krebs cycle chelates (malate, citrate, ascorbate, lactate, tartrate, aspartate) are formed when the calcium, magnesium, and potassium react in water with vitamin C. As the cofactors that drive our biochemical equations, these essential minerals are required for optimal metabolic function. And the added glycine further supports healthy bone, cardiometabolic, and nervous system function. But, unlike most supplements that use just a single mineral chelate, Cal/Mag Effervescent leverages the power of all available chelates to maximize absorption across multiple pathways, boosting its whole-body benefits. Plus, research shows that consuming these essential minerals together in drinking water increases their absorption and bioavailability.¹

² Cal/Mag Effervescent, with its delightful raspberry lemonade flavor, has proven itself to be a vital component of a variety of protocols.

Supplement Facts

Serving Size: Two Level Teaspoons (9.3g)
Servings Per Container: 24

Amount Per Serving	% DV
Vitamin C (as L-ascorbic acid)	500 mg 556%
Calcium (as ascorbate/citrate/lactate/malate reacted from calcium lactate & citric/ascorbic acids)	500 mg 38%
Magnesium (as ascorbate/citrate/lactate/malate reacted from magnesium carbonate & citric/ascorbic acids)	200 mg 48%
Sodium (as bicarbonate)	80 mg 3%
Potassium (as ascorbate/citrate/lactate/malate reacted from potassium bicarbonate & citric/ascorbic acids)	150 mg 3%
Glycine	500 mg †

† The % Daily Value (DV) is not established.

Other Ingredients: Citric acid, lemon juice powder, malic acid, tartaric acid, natural flavors (key lime, lemon, raspberry), silicon dioxide, beet root powder, and stevia leaf extract.

Size: 8 OZ. (226g)

Product Code: MCME

 Vegetarian Formula

 Gluten Free

 Hypoallergenic

Research shows that a substantial proportion of people in the United States consume far less than recommended amounts of **calcium**,



Cal/Mag Effervescent

magnesium, and **potassium**.^{3, 4, 5, 6} And, while glycine is officially considered a nonessential amino acid, it may be best to consider it a conditionally essential amino acid since endogenous production is unlikely to meet the body's many needs.^{7, 8}

Calcium is the most abundant mineral in the body, and the majority is actively stored in bone tissue.^{3, 9} The body uses calcium stored in the bones as a reservoir for (and a source of) tightly maintaining systemic calcium homeostasis.^{3, 9} Calcium makes up much of the structure of the body's hard tissues such as bones and teeth, and it allows normal bodily movement by keeping tissue rigid, strong, yet flexible.^{3, 9} The remainder of the body's calcium is found in the circulatory system, extracellular fluid, and various other tissues, helping to maintain healthy blood vessel tone, muscle function, blood clotting, nerve transmission, and hormonal secretion.^{3, 9, 10}

Magnesium is the fourth most abundant mineral in the body.⁴ It is used as a cofactor in over 300 enzyme systems, supporting a multitude of metabolic activities.^{4, 11, 12, 13} These activities include protein synthesis, DNA and RNA synthesis, cell growth and reproduction, cellular energy production and storage, and the stabilization of mitochondrial membranes.^{4, 13, 14, 15, 16, 17} Magnesium is one of the minerals responsible for helping to maintain healthy bone metabolism, blood glucose, and blood pressure.^{4, 13, 14, 15, 16, 17, 18, 19, 20} And it also plays a role in the active transport of **calcium** and **potassium** ions across cell membranes, all of which support healthy neuromuscular and cardiac function.^{4, 13, 14, 15, 16, 17, 20} Additionally, magnesium is required to produce glutathione, the most powerful antioxidant in the human body.¹³

Potassium is the most abundant intracellular cation, making it a requirement for normal cell function.⁶ It is an essential nutrient present in all body tissues, working to support healthy intracellular fluid volume and transmembrane electrochemical gradients, which are especially important for neuromuscular and heart health.^{6, 21, 22}

Calcium, magnesium, and potassium are some of the most highly utilized minerals in every cell of the body. Considered vital for life, they are an essential aspect of supporting our overall health and wellbeing. Special clinical consideration should be given to women who are no longer menstruating and individuals who avoid eating dairy products.

As the simplest of all amino acids, glycine serves as substrate for many metabolic processes, and is used to synthesize serine, sarcosine, purines, creatine, heme, glutathione, and collagen.^{23, 24} Together, evidence from several different types of studies shows an expanded role for glycine in our overall bone, cardiometabolic, and nervous system health.

Essential Minerals & Bone health

Adequate **calcium** throughout life, as part of a well-balanced diet, may reduce the risk of osteoporosis.^{3, 25} With 98% of the body's calcium and 50-60% of its **magnesium** stored in bone tissue, studies (including a few clinical trials) show that the consumption of calcium, magnesium and **potassium** are associated with



Cal/Mag Effervescent

maintaining healthy bone mineral density (BMD).^{3, 4, 6, 13, 26, 27, 28} And, because bone tissue is constantly being remodeled, adequate intake of these essential minerals is required throughout life.

As alkaline minerals, **calcium**, **magnesium**, and **potassium** and may also contribute to healthy acid-base balance by counteracting diets high in acid-forming foods such as meats and cereal grains, which contribute to metabolic acidosis.^{6, 29} Studies like the Framingham Heart Study have shown that higher potassium intake is associated with significantly greater BMD, and studies examining the DASH diet have shown significantly reduced biochemical markers of bone turnover.^{6, 30, 31}

Research shows that glycine intake is also associated with significantly greater BMD.³² With glycine being the major quantitative component of collagen (the primary constituent of bone tissue), glycine plays a critical role in maintaining healthy collagen structure and overall bone health.²³

Essential Minerals & Cardiovascular Health

Research shows that the DASH diet, which is rich in **calcium**, **magnesium**, and **potassium**, supports multiple aspects of healthy cardiovascular function.^{3, 33, 34} More specifically, diets containing foods that are a good source of potassium and that are low in sodium may reduce the risk of high blood pressure and stroke.^{6, 35} And, while the evidence is inconsistent and inconclusive, consuming diets with adequate magnesium may reduce the risk of high blood pressure.^{13, 36}

Essential Minerals & The Osseous-Cardiometabolic Interface

In addition to mineral metabolism, bone tissue has recently been discovered to contribute to multiple endocrine functions including the healthy regulation of insulin sensitivity, glucose homeostasis, and energy metabolism.³⁷ Several studies have investigated the impact of certain molecules derived from osteoblasts and osteocytes on glucose metabolism.³⁷ And, the documented effects of glucose on bone cells suggests that a mutual interface exists between bone and glucose homeostasis.³⁷

Magnesium and **potassium** also play notable roles in glucose and insulin metabolism.^{6, 13, 38, 39} Potassium aids normal insulin secretion from pancreatic cells and helps maintain healthy fasting glucose levels, while magnesium supports normal cell signaling, glycogenolysis, and activity of the glucose transporter protein.^{4, 38, 39, 40, 41, 42, 43, 44, 45}

On top of glycine's structural role in collagen, research shows that glycine also supports healthy bone tissue via cardiometabolic pathways. Mechanistic research suggests that certain amino acids (alanine, arginine, glutamic acid, glycine, and proline) may support healthy bone tissue by supporting the normal production of insulin and insulin-like growth factor 1, while also supporting the normal synthesis of collagen, elastin, and muscle protein.^{8, 32}



Cal/Mag Effervescent

Essential Nutrients & Nervous System Health

The **calcium** sensing receptor, which senses extracellular calcium ions, was first identified in parathyroid glands where it controls systemic calcium homeostasis by regulating the release of parathyroid hormone.⁴⁶ But, research shows that the calcium sensing receptor plays various roles in a healthy nervous system.⁴⁶ In particular, one role is to support early neural development and the normal differentiation of neurons and glial cells, while another role is to support the adult nervous system with healthy synaptic transmission and neural plasticity.⁴⁶

Adequate daily intake of **magnesium** and **potassium** are critical for a balanced stress response.⁴⁷ And studies show that magnesium status is highly associated with our subjective sense of wellbeing.^{39, 48, 49} While the exact role of magnesium in our perception of wellness is yet to be determined, potential mechanisms include the glutamatergic, serotonergic, and adrenergic neurotransmitter systems, as well as several neuro-hormones.³⁹ Both magnesium and potassium help maintain balanced neuronal signal transduction and protect against the effects of stress.^{41, 50}

In the central nervous system, glycine acts as an inhibitory neurotransmitter.^{8, 51} It can be helpful in supporting relaxation, restful sleep, and healthy neurologic function.⁸

Recommended Dosage

As a nutritional supplement, take two level teaspoons up to 2 times daily, or as directed by your healthcare professional. For best results, place in tepid water and let dissolve. Cool to taste.

Does Not Contain

Wheat, gluten, dairy, peanuts, tree nuts, egg, artificial colors, sweeteners, or preservatives.

Caution

Consult your healthcare practitioner if pregnant, nursing, or taking other nutritional supplements or medications. Keep out of the reach of children.

* 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.



Citations

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