

POTASSIUM & MAGNESIUM CITRATE



CAROLINA
TOTAL WELLNESS
YOUR PARTNER IN HEALTH

Clinical Applications

- Maintains Healthy Cellular Function
- Supports Healthy Kidney Function
- Maintains Healthy Electrolyte Balance

*Potassium & Magnesium Citrate provides two intracellular cations that are vital to maintaining healthy muscle contractility, nerve conduction, and blood pressure levels already within the normal range. These minerals help maintain healthy electrolyte and acid-base balance, and support kidney health and function.**

All Carolina Total Wellness Formulas Meet or Exceed cGMP Quality Standards

Discussion

Hypokalemia Causes and Concerns Hypokalemia (low blood potassium) can result from excessive sweating, vomiting, and diarrhea, or the chronic use of any of a wide variety of pharmaceuticals that cause urinary loss of potassium. Some examples of these include the use of OTCs (eg, aspirin, sodium bicarbonate, laxatives); prescription drugs, such as non-potassium-sparing diuretics and steroids; and chemotherapeutic drugs, such as cisplatin. Long-term oral supplementation with licorice extract containing glycyrrhizin can also reduce potassium levels. A host of diseases—including common conditions such as alcoholism, diabetes, and eating disorders—can also interfere with potassium homeostasis. The diversity and number of physiological processes dependent upon adequate potassium is significant. Examples such as the need for healthy muscle contraction, nerve impulse transmission, gastrointestinal and renal function, tissue synthesis, and carbohydrate metabolism clearly point to the importance of maintaining optimal blood levels of potassium. When potassium levels in the blood are too low, there is disruption in pH, enzymatic reactions, isotonicity, and the electrodynamic balance of cells. Oral administration of potassium is an effective means of maintaining healthy blood levels of potassium when risk factors are present, or for replacing the mineral when it becomes depleted.

Hypomagnesemia Causes and Concerns Hypomagnesemia (low blood magnesium), similar to hypokalemia, is often seen in alcoholism, severe or prolonged vomiting or diarrhea, as well as in type 2 diabetes where a low magnesium level is thought to cause renal impairment sooner than expected. Besides the obvious cause of malabsorption, low magnesium levels may occur due to cirrhosis of the liver, pancreatitis, inflammatory bowel disease, or renal impairment. Low blood magnesium level is often concurrent with a low potassium level in the blood, hence the combination of these minerals in Potassium & Magnesium Citrate's formula. Not all forms of magnesium are appropriate for oral replacement. For example, the solubility, absorption, and bioavailability of magnesium carbonate is limited, and magnesium oxide is likely to cause diarrhea when used in the dose needed for replacement.

Calcium and the Kidneys The excretion of calcium in the urine through the kidney is a matter of concern, especially in individuals who are immobilized. A 3-year, prospective, placebo-controlled, double-blind study (n=64) demonstrated that oral supplementation of potassium-magnesium citrate provided a significant benefit in terms of calcium salt-related kidney health.^[1] Another study demonstrated that the combination of these two minerals increased urinary pH and chelated the calcium, as well as decreased undissociated uric acid concentration.^[2] These and similar studies employed larger doses of potassium/magnesium citrate than is available in a capsule of Potassium & Magnesium Citrate's formula. Some individuals may experience bloating, gas, and loose stools when taking supplemental magnesium across a range of doses, though more so at higher doses. The symptoms are alleviated when the supplement is discontinued; but then its benefit is lost as well.

Citrate The citrate content of this formula is 398 mg (equivalent to 5.24 mEq). It is in the anhydrous form. Although the amount per capsule in this formula is not considered significant, citrate is considered protective because it forms soluble complexes with calcium ions and reduces crystallization and aggregation.^[3]

*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.

Carolina Total Wellness
8398 Six Forks Rd., #203
Raleigh, NC 27615
919-999-0831

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Supplement Facts

Serving Size: 1 Capsule
Servings Per Container: 60

	Amount Per Serving	%Daily Value
Magnesium (as magnesium citrate)	70 mg	18%
Potassium (as potassium citrate)	99 mg	3%

Other Ingredients: HPMC (capsule), microcrystalline cellulose, stearic acid, magnesium stearate, medium-chain triglyceride oil, and silica.

Directions

Take one capsule one to two times daily, or as directed by your healthcare practitioner.

Consult your healthcare practitioner prior to use. Individuals taking medication should discuss potential interactions with their healthcare practitioner. Do not use if tamper seal is damaged.

References

1. Ettinger B, Pak CY, Citron JT, et al. Potassium-magnesium citrate is an effective prophylaxis against recurrent calcium oxalate nephrolithiasis. *J Urol.* 1997 Dec;158(6):2069-73. [PMID: 9366314]
2. Zerwekh JE, Odvina CV, Wuermser LA, et al. Reduction of renal stone risk by potassium-magnesium citrate during 5 weeks of bed rest. *J Urol.* 2007 Jun;177(6):2179-84. [PMID: 17509313]
3. Caudarella R, Vescini F. Urinary citrate and renal stone disease: the preventive role of alkali citrate treatment. *Arch Ital Urol Androl.* 2009 Sep;81(3):182-7. [PMID: 19911682]

Does Not Contain

Wheat, gluten, corn, yeast, soy, animal or dairy products, fish, shellfish, peanuts, tree nuts, egg, ingredients derived from genetically modified organisms (GMOs), artificial colors, artificial sweeteners, or artificial preservatives.

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