

## Chromagic™

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### RELATED TERMS

- Biotin, Brantford and Stratford Herbal Magic®, Chromagic™, chromium, chromium picolinate, Herbal Magic®, vanadium, vitamin B6, WM-2000™.

### BACKGROUND

- Chromagic™, manufactured by Herbal Magic®, is a dietary supplement that contains chromium, vanadium, biotin, and vitamin B6.
- According to manufacturer data, Chromagic™ is designed to assist in weight loss, proper insulin functioning, and blood sugar regulation. It may also help decrease appetite and sugar cravings, increase muscle mass, regulate cholesterol, and help break down carbohydrates, fats, and protein. However, sufficient evidence on the safety and effectiveness is currently unavailable to make a conclusion on the use of Chromagic™ for these indications.
- Some research is available on the individual ingredients in Chromagic™.

### THEORY/EVIDENCE

- **General:** According to manufacturer data, Chromagic™ is designed to assist in weight loss, proper insulin functioning, and blood sugar regulation. It may help decrease appetite and sugar cravings, increase muscle mass, regulate cholesterol, and assist in the breakdown of carbohydrates, fats, and protein. However, available evidence supporting these claims is lacking.
- Some research is available on the individual ingredients.
- **Chromium:** The main ingredient, chromium, is an essential trace element typically found in foods, such as egg yolks, coffee, green beans, nuts, and whole-grain products.
- Good evidence supports the use of chromium for the treatment of diabetes and high blood sugar levels. It may also help regulate blood sugar levels in patients with low blood sugar disorders. Additionally, chromium picolinate may help improve glucose tolerance in women with polycystic ovary syndrome. However, chromium does not appear to alter hormones.
- Chromium has also been suggested as beneficial for bipolar disorder, bone loss (in postmenopausal women), heart disease, cognitive function, depression, glucose intolerance, high cholesterol, immune disorders, Parkinson's disease, and schizophrenia. However, research in these areas is unclear or conflicting.
- Although chromium may help improve lean body mass (by reducing fat and increasing muscle), available evidence suggests that it may not be an effective therapy for obesity.
- **Vanadium:** Some research suggests that vanadium may have insulin-mimetic effects. Long-term treatment was shown to decrease blood sugar, triglyceride, and cholesterol levels. However, the potential short and long-term vanadium toxicity has slowed the acceptance of this agent for medicinal use.
- **Vitamin B6:** Vitamin B-6 is involved in many bodily functions and is an essential metabolite in humans. Vitamin B-6 is available in many forms, including pyridoxal, pyridoxine, and pyridoxamine.
- Strong evidence supports the use of vitamin B6 for hereditary sideroblastic anemia, cycloserine side effects, pyridoxine deficiency, and pyridoxine-dependent seizures in newborns.
- It has also been suggested as possibly beneficial for akathisia, angioplasty, asthma, attention deficit hyperactivity disorder (ADHD), birth outcomes, cancer prevention, heart disease, carpal tunnel syndrome, depression, hyperkinetic cerebral dysfunction syndrome, immune function, kidney stones,

lactation suppression, pregnancy-induced nausea and vomiting, PMS, preventing vitamin B6 deficiency associated with birth control pills, and tardive dyskinesia. However, evidence of effectiveness is unclear or conflicting in these areas.

- Some evidence suggests that vitamin B6 may aid in carbohydrate, fat, and protein metabolism. Preliminary studies indicate that vitamin B-6 may have antioxidant effects. However, additional research is needed before conclusions can be made in these areas.
- Available evidence suggests that vitamin B6 may not improve autism or prevent stroke recurrence.
- **Biotin:** Biotin is an essential water-soluble B vitamin involved in the break down of lipids and carbohydrates and production of energy. Without biotin, certain enzymes do not work properly, resulting in various complications involving the skin, intestinal tract, and nervous system.
- Strong evidence supports the use of biotin for biotin deficiency and biotin-responsive inborn errors of metabolism.
- In early research, biotin has been reported to decrease insulin resistance and improve glucose tolerance, which are both properties that may be beneficial in patients with type 2 diabetes. Evidence suggests that when combined with chromium, biotin may improve glycemic control in overweight type 2 diabetic patients. However, there is not enough human evidence to form a clear conclusion in this area.
- Biotin has also been suggested as beneficial for brittle fingernails, heart disease, hepatitis (in alcoholics), and pregnancy supplementation. However, evidence is unclear of conflicting in these areas.

## SAFETY

- **General:** Patients with a known allergies or hypersensitivities to ingredients in Chromagic™ (such as chromium, vanadium, biotin, and vitamin B6) should avoid using the product. Children or pregnant or lactating women should also avoid using Chromagic™ due to a lack of safety information for this product.
- **Chromium:** Chromium, in its trivalent form, appears to be well tolerated in healthy adults when adequate intake guidelines are followed. Adverse effects are reportedly rare or uncommon. However, the hexavalent form is not well tolerated and may be toxic. Hexavalent chromium appears to be associated with lung cancers, skin problems, and nasal septum perforations.
- The most common complaints of chromium use include stomach discomfort and nausea or vomiting. Rarely, skin rashes, insomnia or sleep disturbances, headaches, mood changes, muscle damage, or anemia may occur. Adverse effects on the heart, blood, kidneys, or liver may also occur. Additionally, there are rare reports of respiratory effects, such as cough, shortness of breath, wheezing, rhinitis, and asthma, after inhaling chromium.
- Chromium has been shown to decrease serotonin levels and may interfere with liver enzymes. Early data suggest that chromium, in combination with copper, may have potential suppressive effects on the immune system. Therefore, caution should be used in patients with suppressed immune systems. Patients taking oral drugs for diabetes or using insulin should be monitored closely by their healthcare professionals while using chromium. Chromium may increase blood pressure; caution is advised in patients taking medications that alter blood pressure. In theory, zinc may decrease chromium levels in the body and may interfere with chromium. It is possible that vitamin C may also alter chromium levels. Chromium taken with iron may affect the way iron is processed in the body.
- **Vanadium:** Information about vanadium toxicity is limited. According to secondary sources, toxic effects may develop in workers exposed to vanadium dust. High blood levels of vanadium have been linked to manic-depressive mental disorders. In animals, vanadium sometimes inhibits, but at other times stimulates, cancer growth. However, the effect in humans remains unknown.
- **Vitamin B6:** Some individuals seem to be particularly sensitive to vitamin B6 and may have problems at lower doses. Overall, pyridoxine is generally considered safe in adults and children when used appropriately at recommended doses. Avoid excessive dosing. Acne, skin reactions, allergic reactions, photosensitivity, nausea, vomiting, abdominal pain, loss of appetite, increased liver enzymes, headache, paresthesia, somnolence, and sensory neuropathy have been reported. Breast soreness or enlargement, decreased serum folic acid levels, seizures after large doses, hypotonia, and respiratory distress in infants have also been reported. Theoretically, herbs and supplements with estrogen-like activity may interact with vitamin B6. Patients taking anticonvulsants should avoid high doses of vitamin B6 and biotin.

- **Biotin:** Significant toxicity with biotin intake has not been reported in the available literature, and very high doses have been used in patients with inborn errors of metabolism without reported toxicity. However, doses higher than the U.S. Food and Nutrition Board's recommended daily Adequate Intake (AI) should not be exceeded in healthy individuals unless under medical supervision. Eating raw egg whites on a regular basis increases the risk of biotin deficiency. High doses of pantothenic acid may lead to malabsorption of biotin in the gut and may lower levels of biotin in the body.

## AUTHOR INFORMATION

- This information has been edited and peer-reviewed by contributors to the Natural Standard Research Collaboration ([www.naturalstandard.com](http://www.naturalstandard.com)).

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