

integrativepro.com/metabolic • 800.931.1709

# GLYCEMIC MANAGER<sup>™</sup> GLUCOSE SUPPORT FORMULA

Glycemic Manager combines essential nutrients with botanical extracts designed to lessen the impact of foods with a high glycemic index and support healthy blood sugar metabolism.\*

## Superior Support for Healthy Glucose Metabolism

Key vitamins, minerals, and other nutrients in Glycemic Manager have been shown to support healthy blood sugar metabolism by enhancing the ability of cells to accept and convert glucose more efficiently.\* This unique glucose control formula helps to move glucose from the blood to the body's cells, where it is used as a source of energy and as a metabolic intermediate.\* Glycemic Manager contains myricetin, which has been shown to support healthy blood glucose metabolism in the post-prandial period.\*

### Glycemic Manager features:

GF

- Chromium picolinate, a bioavailable form of chromium.
- Myricetin, a flavonoid that supports healthy insulin sensitivity.\*
- B vitamins to restore those commonly depleted by oral diabetes medications, such as Metformin.\*
- Magnesium, which has been shown to support healthy insulin response and utilization in the body.\*











# GLYCEMIC MANAGER™

### Background

Glycemic Manager<sup>™</sup> glucose control formula combines essential nutrients with powerful botanicals long-used for their ability to promote healthy blood sugar metabolism.\* This formula contains myricetin, a flavonoid that may help increase the rate of post-prandial glucose metabolism.\* Glycemic Manager also contains 250 mcg of chromium, in the form of chromium picolinate,<sup>2</sup> a clinically effective level to support healthy glucose metabolism.\*

### **How It Works**

Glycemic Manager combines essential nutrients with powerful botanicals to support healthy blood sugar metabolism by enhancing the ability of cells to metabolize glucose more efficiently.\*1

The following chart summarizes the key benefits of selected ingredients in Glycemic Manager:

INGREDIENT	BENEFIT		
Thiamin (Vitamin B1)	Vitamin B1 is a water-soluble B-complex vitamin necessary for proper carbohydrate metabolism.* <sup>2</sup>		
Niacinamide	Some research has shown that the niacinamide form of niacin supports healthy glucose metabolism.* <sup>3</sup> Niacinamide may help preserve some function of insulin-secreting cells.* <sup>4</sup>		
Vitamin B6	Vitamin B6 has been shown to be important for healthy glucose metabolism, with particular support indicated for nerve function.* <sup>5-7</sup> Vitamin B6 may also reduce the amount of glycosylation.* <sup>8</sup>		
Folic Acid	Supplemental folic acid may compensate for nutritional depletions caused by oral diabetes medications, such as metformin.* <sup>9,3</sup>		
Vitamin B12	In combination with folic acid, supplemental vitamin B12 helps restore B vitamins commonly depleted by oral diabetes medications.* <sup>9,3</sup>		
Biotin	Biotin is an essential coenzyme required to process glucose. Supplemental biotin has been shown to support healthy fasting glucose levels already within normal limits, as well as nerve function.* <sup>10,11</sup>		
Magnesium	A constituent of many coenzymes that play a role in energy creation.* <sup>12</sup> Magnesium status has been directly linked to insulin utilization by the body.* <sup>13,14</sup> Supplementation has been shown to enhance healthy insulin responses and support healthy glucose metabolism.* <sup>15,16</sup>		
Zinc	Several studies document the important role that zinc plays in the regulation of insulin production by the pancreas as well as glucose utilization by cells.* <sup>17</sup>		
Chromium	A trace mineral widely distributed in nature, chromium is required for the synthesis of glucose tolerance factor (GTF), which is needed for proper glucose metabolism.* It enhances the effectiveness of insulin on carbohydrate metabolism.* <sup>18</sup>		
	Chromium, and in particular chromium picolinate, has been shown in multiple controlled clinical trials to support healthy glucose metabolism.* <sup>19-27</sup>		
Alpha-Lipoic Acid	Alpha-lipoic acid supports healthy glucose and insulin metabolism in the body and healthy nerve function.* <sup>28</sup>		
Bitter Melon (Momordica charantia)	Bitter melon is a tropical vine from the Cucurbitaceae family and helps support healthy glucose metabolism.* <sup>29</sup>		
Gymnema (Gymnema sylvestre)	Several studies have demonstrated that supplementation with Gymnema sylvestre supports healthy blood sugar metabolism.* <sup>30</sup>		
Bilberry (Vaccinium myrtillus)	Anthocyanins, such as those present in bilberry, may help support healthy insulin secretion and eye health.* <sup>31</sup>		
Banaba (Lagerstroemia speciosa)	Banaba is a traditional Philippine herb that contains corosolic acid, a constituent believed to be important for the support of healthy glucose metabolism.* <sup>32</sup>		
Vanadium (as Vanadyl sulfate)	Vanadium has demonstrated insulin-like effects in vitro and has supported healthy blood glucose metabolism in animals.* <sup>33</sup>		
Myricetin (Myrica cerifera)	In animal research, myricetin has been shown to support healthy insulin sensitivity and glucose utilization by enhancing glycogen metabolism in hepatocytes.* <sup>34-37</sup>		

#### Conclusion

Glycemic Manager glucose control formula promotes optimal blood sugar metabolism by supporting a healthy glycemic response and insulin sensitivity.\*

#### References

- Wulffele HG, Kooy A, Lehert P, et al. Effects of short-term treatment with metformin on serum concentrations of homocysteine, folate and vitamin B12 in type 2 diabetes mellitus: a randomized, placebo-controlled trial. J Intern Med. 2003 Nov;254 (5) :455–63
- Haugen HN. The blood concentration of thiamine in diabetes. Scand J Clin Lab Invest 1964;16:260–6.
- Clearly JP. Vitamin B3 in the treatment of diabetes mellitus: case reports and review of the literature. J Nutr Med 1990;1:217–25.
- Pozzilli P, Browne PD, Kolb H. Meta-analysis of nicotinamide treatment in patients with recent-onset type 1. The nicotinamide trialists. *Diabetes Care* 1996;19:1357–63.
- Wilson RG, Davis RE. Serum pyridoxal concentrations in children with diabetes mellitus. *Pathology* 1977;9:95–9.
- Davis RE, Calder JS, Curnow DH. Serum pyridoxal and folate concentrations in diabetics. *Pathology* 1976;8:151–6.
- McCann VJ, Davis RE. Serum pyridoxal concentrations in patients with diabetic neuropathy. Aust N Z J Med 1978;8:259–61.
- Solomon LR, Cohen K. Erythrocyte O2 transport and metabolism and effects of vitamin B6 therapy in type II diabetes mellitus. *Diabetes* 1989;38:881–6.
- Carpentier JL, Bury J, Luyckx A, et al. Vitamin B12 and folic acid serum levels in diabetics under various therapeutic regimens. *Diabete Metab.* 1976 Dec;2 (4):187–90.
   Coggeshall JC, Heggers JP, Robson MC, Baker H. Biotin status and plasma glucose in
- Coggestian 3C, Reggers SF, ROBSON MC, Daker R. Broth status and plasma glucose in diabetics. Ann NY Acad Sci 1985;447:389–92.
   Koutsikos D, Agroyannis B, Tzanatos-Exarchou H. Biotin for diabetic peripheral
- Kouiskos D, Agroyannis B, Izanaos-Exarctiou H. Botoun for diabetic peripheral neuropathy. Biomed Pharmacother 1990;44:511–4.
   Marieb EN. Minerals. In: Human Anatomy and Physiology. 6th ed. San Francisco, CA.
- Marieb EN. Minerais. In: Human Anatomy and Physiology. 6th ed. San Francisco, Pearson Benjamin Cummings. 2004:951–4.
- Eibl NL, Kopp HP, Nowak HR, Schnack CJ, Hopmeier PG, Schernthaner G.. Hypomagnesemia in type II diabetes: effect of a 3-month replacement therapy. *Diabetes Care.* 1995 Feb;18(2):188–92.
- Tuvemo T, Gebre-Medhin M. The role of trace minerals in juvenile diabetes mellitus. Pediatrician. 1983–1985;12(4):213–9.
- Yokota K, Kato M, Lister F, li H, Hayakawa T, Kikuta T, Kageyama S, Tajima N. Clinical efficacy of magnesium supplementation in patients with type 2 diabetes. J Am Coll Nutr. 2004 Oct;23(5):506S–509S.
- Paolisso G, Scheen A, D'Onofrio FD, Lefebvre P. Magnesium and glucose homeostasis. *Diabetologia* 1990;33:511–4 [review].
- May JM, Contoreggi CS. The mechanism of the insulin-like effects of ionic zinc. J Biol Chem. 1982;257(8):4362–8.
- 18. Vincent J. The biochemistry of chromium. *J Nutr.* 2000;130:715–18.
- Saner G, Yüzbasiyan V, Neyzi O, et al. Alterations of chromium metabolism and effect of chromium supplementation in Turner's syndrome patients. *Am J Clin Nutr.* 1983;38:574–8.
- Riales R, Albrink MJ. Effect of chromium chloride supplementation on glucose tolerance and serum lipids including high-density lipoprotein of adult men. *Am J Clin Nutr.* 1981;34:2670–8.
- Anderson RA. Chromium in the prevention and control of diabetes. *Diabetes Metab* 2000;26:22–7 [review].
- Anderson RA, Polansky MM, Bryden NA, et al. Chromium supplementation of human subjects: effects on glucose, insulin, and lipid variables. *Metabolism* 1983;32:894–9.
- Jovanovic L, Gutierrez M, Peterson CM. Chromium supplementation for women with gestational diabetes. J Trace Elem Exptl Med 1999;12:91–8.
- Anderson RA, Polansky MM, Bryden NA, Canary JJ. Supplemental-chromium effects on glucose, insulin, glucagon, and urinary chromium losses in subjects consuming controlled low-chromium diets. *Am J Clin Nutr* 1991;54:909–16.
- Evans GW. The effect of chromium picolinate on insulin controlled parameters in humans. Int J Biosocial Med Res 1989;11:163–80.
- 26. Anderson RA. Chromium, glucose intolerance and diabetes. *J Am Coll Nutr* 1998;17:548–55 [review].
- Martin J, Wang ZQ, Zhang XH, et al. Chromium picolinate supplementation attenuates body weight gain and increases insulin sensitivity in subjects with type 2 diabetes. *Diabetes Care* 2006;29:1826–32.
- Gaby AR. Alpha-lipoic acid. In: Nutritional Medicine. Concord, Fritz Perlberg Publishing, 2011: 222–3.
- Basch E, Gabardi S, Ulbricht C. Bitter melon (Momordica charantia): a review of efficacy and safety. Am J Health Syst Pharm. 2003 Feb;60(4):356–9.
- Ulbricht C, AbramsTR, Basch E, et al. An evidence-based systematic review of gymnema (Gymnema sylvestre R. Br.) by the Natural Standard Research Collaboration. J Diet Suppl. 2011 Sep;8(3):311–30. doi: 10.3109/19390211.2011.597977.
   Ghosh D, Konishi T. Anthocyanins and anthocyanin-rich extracts: role in diabetes and
- eye function. Asia Pac J Clin Nutr. 2007;16(2):200–8.
  Klein G, Kim J, Himmeldirk K, Cao Y, Chen X. Antidiabetes and anti-obesity activity of
- Kieni J, Kimi J, Immediatri K, Gao F, Chen A. Antidabetes and anti-opesity activity of Lagerstroemia speciosa. Evid Based Complement Alternat Med. 2007 Dec;4(4):401–7
   INo author listedl. Vanadium/Vanadvi Sulfate. *Altern Med Rev* 2009;14(2):177–80.
- [No author listed]. Vanadium/Vanadyl Sulfate. Altern Med Rev 2009;14(2):177–80.
  Liu IM, Tzeng TF, Liou SS, Lan TW. Myricetin, a naturally occurring flavonol,
- ameliorates insulin resistance induced by a high-fructose diet in rats. *Life Sci.* 2007 Nov 10;81(21–22): 1479–88.

Supplement Facts						
Serving Size 2 tablets	Servings	per co	ntainer 30			
Amount per 2 tablets			%DV**			
Calories	5					
Total Carbohydrate	1	g	<1%**			
Thiamin (as thiamin HCI) (vitamin B1)	56	mg	3,733%			
Riboflavin (vitamin B2)	56	mg	3,294%			
Niacin (as niacinamide)	37	mg	185%			
Vitamin B6 (as pyridoxine HCI)	63	mg	3,150%			
Folic Acid	600	mcg	150%			
Vitamin B12 (as cyanocobalamin)	375	mcg	6,250%			
Biotin	400	mcg	133%			
Pantothenic Acid (as calcium D-pantothenate)	37	mg	370%			
Magnesium (as magnesium oxide)	200	mg	50%			
Zinc (as zinc gluconate)	15	mg	100%			
Copper (as copper gluconate)	1	mg	50%			
Chromium (as chromium picolinate)	250	mcg	208%			
Sodium	10	mg	<1%			
Alpha Lipoic Acid	250	mq	***			
Bitter Melon ( <i>Momordica</i> <i>charantia</i> ) Fruit Extract	200	mg	***			
Gymnema ( <i>Gymnema sylvestre</i> ) Leaf Extract standardized to contain 25% gymnemic acids	200	mg	***			
Myricetin (from <i>Myrica cerifera</i> leaf and bark)	100	mg	***			
Choline Bitartrate	75	mg	***			
Bilberry ( <i>Vaccinium myrtillus</i> ) Fruit Extract	40	mg	***			
Banaba ( <i>Lagerstroemia speciosa</i> ) Leaf Extract standardized to contain 1% corosolic acids	30	mg	***			
Vanadium (as vanadyl sulfate)	200	mcg	***			

**Other ingredients:** cellulose, modified cellulose gum, stearic acid, silicon dioxide, modified cellulose, magnesium stearate, and glycerin.

**Contains no:** sugar, yeast, wheat, gluten, corn, soy, dairy products, artificial coloring, artificial flavoring, preservatives, or ingredients of animal origin.

**Recommendations:** Take 2 tablets daily with food or as recommended by your healthcare professional.

**Caution:** If you are taking medication to control high blood sugar or have hypoglycemia (low blood sugar), please consult with your healthcare professional before using this product. Individuals who are pregnant, nursing, or taking prescription drugs should consult a healthcare professional before using this product.

Integrative Therapeutics	Natural Partners	Emerson Ecologics
60 CT - 74906	60 CT - IT0065	60 CT - GLY30

- Liu IM, Tzeng TF, Liou SS, Lan TW. Improvement of insulin sensitivity in obese Zucker rats by myricetin extracted from Abelmoschus moschatus. *Planta Med.* 2007 Aug;73(10):1054–60.
- Liu IM, Liou SS, Lan TW, Hsu FL, Cheng JT. Myricetin as the active principle of Abelmoschus moschatus to lower plasma glucose in streptozotocin-induced diabetic rats. *Planta Med.* 2005 Jul;71(7):617–21.
- Ong KC, Khoo HE. Effects of myricetin on glycemia and glycogen metabolism in diabetic rats. *Life Sci.* 2000 Aug 25;67(14):1695–705

# Glycation Manager™

Glycation Manager is an exclusive combination designed to slow the formation of advanced glycation end-products (AGEs) and protein glycation associated with normal metabolism and aging.\* The unique formulation features clinically studied levels of benfotiamine, a form of thiamine, chromium, and biotin, which have been shown to support healthy levels of hemoglobin A1c (HbA1c) and fructosamine,\*\* two important indicators of glycation.\*

- · Promotes optimal blood lipid, glucose, and protein metabolism\*
- Supports healthy metabolic function, circulatory health, and tissue function.\*
- Features bioavailable Theracurmin<sup>®</sup>

### #70675, 60 Veg capsules



GF



vegetarian

\*\*already within normal limits





# UBQH™

In order to benefit the body, CoQ10 (ubiquinone) must be converted to its bioactive and reduced form – ubiquinol (QH). UBQH contains an active, stabilized ubiquinol in an exclusive, clinically studied delivery system. Studies have shown that in older individuals, supplementation with stable ubiquinol resulted in greater sustained plasma levels of the active form of CoQ10 (ubiquinol).1 UBQH is ideal for:

- Patients requiring high doses of CoQ10.
- Genetically disadvantaged patients.\*
- Patients for whom CoQ10 conversion may be problematic.

#770026 (50mg). 60 softgels; #76513 (100mg), 30 softgels; #76516 (100mg), 60 softgels







1. Unpublished data. Kaneka Corporation. July, 2004



# **Bilberry Extract**

Bilberry extracts have been shown to support normal connective tissue integrity, especially in blood vessels and the eye.\* Bilberry Extract is standardized to contain 25% anthocyanin flavonoids, which are among the most powerful botanical antioxidants known.\*

#78586, 60 veg capsules











\*THIS STATEMENT HAS NOT BEEN EVALUATED BYTHE FOOD AND DRUG ADMINISTRATION. THIS PRODUCT IS NOT INTENDED TO DIAGNOSE, TREAT, CURE, OR PREVENT ANY DISEASE