

# MedCaps IS™

Proprietary Blood Glucose Formula\*



Available in 60 capsules

## Clinical Applications

- » Supports Healthy Glucose Metabolism\*
- » Supports Healthy Insulin Sensitivity\*
- » Supports Healthy Blood Lipid Levels Already Within The Normal Range\*

*MedCaps IS™ is an extraordinary combination of herbal and nutrient support for healthy glucose metabolism. It features concentrates of fenugreek, gymnema and bitter gourd, the addition of high levels of vanadium along with select B vitamins and the mineral, chromium. This formula provides nutritional support for glucose and insulin metabolism and supports healthy blood lipid levels already within the normal range\**

## Discussion

**Thiamin** activates glyceraldehyde phosphate dehydrogenase (GAPDH). Decreased availability of this enzyme has been implicated in diabetes complications such as blindness, nerve damage, kidney failure, stroke and cardiovascular disease.<sup>[1]</sup> Thiamin repletion in the case of a six year-old girl with diabetes caused by a genetic mutation effecting thiamine transport demonstrated its benefits.<sup>[2]</sup> Thiamin deficiency may cause diabetic neuropathy by decreasing transketolase, needed for normal myelination and thiamine monophosphatase, needed for primary sensory neuron function.\*<sup>[3]</sup>

**Niacin** is required for lipid metabolism, tissue respiration and glycogenolysis. It may preserve and protect Beta cells.<sup>[4]</sup> Niacinamide improved insulin secretion in lean diabetics who had failed drug treatment.\*<sup>[5]</sup>

**Chromium and Biotin** synergistically improve glucose tolerance.<sup>[6,7]</sup> Biotin, in large doses (5-15 mgs) enhances the effects of enzymes involved in glucose metabolism. One small study demonstrated reversal of diabetic neuropathy.<sup>[8]</sup> Chromium polynicotinate, preferred for its bioavailability and biological activity may increase insulin receptor sensitivity and enhance glucose transport. Anderson, et al. showed 1000 mcgs of chromium stabilized blood sugar in two months along with insulin and cholesterol level improvement.\*<sup>[9]</sup>

**Vanadyl Sulfate** may reduce hepatic gluconeogenesis and “mimic” insulin’s effect.<sup>[10]</sup> In rats, vanadyl sulfate was also shown to alter the expression of genes dysregulated in diabetes.\*<sup>[11]</sup>

**Fenugreek Seed** and its constituent, 4-isoleucine appear to directly stimulate insulin.<sup>[12]</sup> The combination of fenugreek with vanadium appeared to normalize altered membrane linked functions and GLUT4 distribution.<sup>[13]</sup> Fenugreek also lowered high serum cholesterol and triglycerides.\*<sup>[14]</sup>

**Bitter Gourd (aka. bitter melon)** contains an insulin-like polypeptide shown to exhibit hypoglycemic effects<sup>[15]</sup> with an onset of action

between 30-60 minutes and a peak effect at about 4 hours.<sup>[16]</sup> It is approved as an antidiabetic drug in China.\*<sup>[17]</sup>

**Gymnema sylvestre** reduced fasting blood sugars, glycosylated hemoglobin (HbA1c) and glycosylated plasma protein levels and thus insulin requirements in Type 1 diabetics by reducing glucose absorption in the intestine, stimulating pancreatic beta cell growth and possibly increasing endogenous insulin secretion as suggested by an increase in C-peptide levels. Gymnema was shown to also reduce serum triglycerides, total cholesterol, VLDL and LDL.\*<sup>[18]</sup>

\*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.

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**MedCaps IS™ Supplement Facts**

Serving Size: 2 Capsules

	Amount Per Serving	%DV
Thiamin (as thiamine HCl)	100 mg	8333%
Niacin (as niacinamide)	100 mg	625%
Biotin	10,000 mcg	33,333%
Chromium (as TRAACS® chromium nicotinate glycinate chelate)	1000 mcg	2857%
Fenugreek Extract ( <i>Trigonella foenum-graecum</i> )(seeds)(50% saponins)	300 mg	**
Bitter Gourd Extract ( <i>Momordica charantia</i> )(7.5% total bitters)	150 mg	**
Gymnema Extract ( <i>Gymnema sylvestre</i> )(leaf)(25% gymnemic acids)	100 mg	**
Vanadium (as TRAACS® vanadium nicotinate glycinate chelate)	5 mg	**

\*\* Daily Value (DV) not established.

**Other Ingredients:** HPMC (capsule), stearic acid, magnesium stearate, and silica.**DIRECTIONS:** Take two capsules daily after meals, 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.

**STORAGE:** Keep closed in a cool, dry place out of reach of children.**DOES NOT CONTAIN:** Wheat, gluten, 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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**References**

- Obrenovich ME, Monnier VM. Vitamin B1 blocks damage caused by hyperglycemia. *Sci Aging Knowledge Environ*. 2003 Mar 12; 2003 (10): PE6.
- Viana MB, Carvalho RI. Thiamine- Responsive Megaloblastic Anemia, Sensorineural Deafness, and Diabetes Mellitus: A New Syndrome?, *J Pediatrics*, August 1978; 93(2): 235-238.
- Frydl, V., Zavodska, H. Diabetic Polyneuropathy and Vitamin B1, *Medwelt*, 1989;40:1484-6
- Pozzilli, B. et al. Adjuvant therapy in recent onset type 1 diabetes at diagnosis and insulin requirement after 2 years. *Diabete Metab*. 1995 Feb;21(1): 4709. [PMID: 7781843]
- Polo, V. Saibene A., Pontiroli AE. Nicotinamide improves insulin secretion and metabolic control in lean type 2 diabetic patients with secondary failure to sulfonylureas. *Acta Diabetol* 1998;35:61-4
- McCarty MF. High dose biotin, an inducer of glutokinase expression, may synergize with chromium picolinate to enable a definitive nutritional therapy for type II diabetes. *Med Hypotheses* 1999 May;52(5):401-6
- Singer GM, Geohas J. The effect of chromium picolinate and biotin supplementation on glycemic control in poorly controlled patients with type 2 diabetes mellitus: a placebo-controlled, double-blinded, randomized trial. *Diabetes Technol Ther*. 2006 Dec; 8(6): 636-43 [PMID:17109595]
- Coggeshall JC, et al. Biotin status and plasma glucose in diabetes. *Annals New York Academy of Sciences* 1985; 447:389-92
- www.naturaldatabase.com
- Badmaev V. Vanadium: review of its potential role in the fight against diabetes; *J Altern Complement Med*, 1999; 5(3): 273-291
- Willsky GR. Diabetes-altered gene expression in rat skeletal muscle corrected by oral administration of vanadyl sulfate: *Physiol Genomics*. 2006 Aug 16;26(3):192-201. Epub 2006 May 9. [PMID: 16684804]
- Sauvaire Y. et al. 4-hydroxisoleucine. A novel amino acid potentiator of insulin secretion. *Diabetes* 1998; 47: 20610
- Siddiqui MR et.al. Low doses of vanadate and Trigonella synergistically regulate Na<sup>+</sup>/K<sup>+</sup> -ATPase activity and GLUT4 translocation in alloxan-diabetic rats. *Cell Biochem*. 2006 Apr; 285 (1-2): 17-27. Epub 2006 Apr 19 [PMID: 16622606]
- Newall CA, Anderson LA, Philpson JD. *Herbal Medicine: A Guide for Healthcare Professionals*. London, UK The Pharmaceutical Press, 1993
- Sarkar S, Pranava M, Marita R. Demonstration of the hypoglycemic action of *Momordica charantia* in validated animal model of diabetes. *Pharmacol Res*, 1993;33(1)1-4
- Raman A, et al. Anti-diabetic properties and phytochemistry of *Momordica charantia* L. (Cucurbitaceae). *Phytomedicine* 1996; 26
- Jia W, Gao W, Tang L. Antidiabetic herbal drugs officially approved in China. *Phytother Res* 2003 Dec; 17(10): 1127-1134
- Shanmugasundaram, E.R.B., Rajeswari, G., Baskaran K., Rajesh Kumar, B.R., Radha Shanmugasundaram, K., Kizar Ahmath, B. Use of gymnema sylvestre leaf extract in the control of blood glucose in insulin-dependent diabetes mellitus. *J Ethnopharmacol* 1990;30:281-94
- The Review of Natural Products by Facts and Comparisons. St. Louis, MO:Wolters Kluwer Co; 1999

Additional references available upon request

All XYMOGEN® Formulas Meet or Exceed cGMP Quality Standards.

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