

Protoglyco IS



Clinical Applications

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

*Protoglyco IS is an extraordinary combination of synergistic herbs, vitamins and minerals providing nutritional support for glucose and insulin metabolism and healthy blood lipid levels, including triglycerides that are already within the normal range**

All Living Health Integrative Medicine Formulas Meet or Exceed cGMP Quality Standards

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.^[1] Thiamin repletion in the case of a six year-old girl with diabetes caused by a genetic mutation effecting thiamine transport demonstrated its benefits.^[2] Thiamin deficiency may cause diabetic neuropathy by decreasing transketolase, needed for normal myelinization and thiamine monophosphatase, needed for primary sensory neuron function.^{*[3]}

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

Chromium and Biotin synergistically improve glucose tolerance.^[6,7] Biotin, in large doses (5-15 mgs) enhances the effects of enzymes involved in glucose metabolism. One small study demonstrated reversal of diabetic neuropathy.^[8] 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.^{*[9]}

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

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

Bitter Gourd (aka. bitter melon) contains an insulin-like polypeptide shown to exhibit hypoglycemic effects^[15] with an onset of action between 30-60 minutes and a peak effect at about 4 hours.^[16] It is approved as an antidiabetic drug in China.^{*[17]}

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.^{*[18]}

***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.**

Supplement Facts

Serving Size: 2 Capsules
Servings Per Container: 30

	Amount Per Serving	%Daily Value
Thiamine (as thiamine hydrochloride)	100 mg	6667%
Niacin (as niacinamide)	100 mg	500%
Biotin	10 mg	3333%
Chromium† (as TRAACS® chromium nicotinate glycinate chelate)	1000 mcg	833%
Fenugreek Seed Extract 50%	300 mg	**
Bitter Gourd Extract (2.5% bitter principles)	150 mg	**
Gymnema Sylvestre Leaf Extract 25%	100 mg	**
Vanadium† (as TRAACS® vanadium nicotinate glycinate chelate)	5 mg	**

** Daily Value not established.

Other Ingredients: Cellulose, stearic acid, magnesium stearate, and silica.



†TRAACS® is a registered trademark of Albion Laboratories, Inc.

Directions

Take two capsules daily after meals or as directed by your healthcare practitioner.

References

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Cautions

Consult with your healthcare practitioner before use. Keep out of reach of children.

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