



# WELLBETX<sup>®</sup> GLUCOREGULATOR COMPLETE HERBAL FORMULA

A healthy way to maintain blood sugar levels

## GLUCOREGULATOR – THE WELLBETX WAY TO MAINTAIN HEALTHY BLOOD SUGAR LEVELS

The WellBetX line of natural supplements was developed by researchers at Natural Factors in conjunction with the Canadian Center for Functional Medicine, to stabilize blood sugar and promote weight loss, providing unprecedented benefits for three difficult health challenges: diabetes (both Types 1 and 2), hypoglycemia (low blood sugar) and successful weight loss.

Low blood sugar, insulin resistance, obesity, Metabolic Syndrome, diabetes – conditions that are making the news daily – all relate to fluctuating blood sugar levels. The symptoms experienced are tiredness, weight gain or loss, headaches, irritability, depression, or hyperactivity. If that sounds like you, perhaps it is time to investigate a botanical antioxidant combination called WellBetX GlucoRegulator, especially if you have been diagnosed with Type 1 or Type 2 diabetes. This mixture of herbal extracts has scientifically-proven abilities to radically improve blood sugar control and insulin balance, resulting in better health, energy and weight control. Each herb in the formula has an excellent safety profile.

## GLUCOREGULATOR – THE HERBS

Two tablets contain:

*Gymnema sylvestre* extract – 200 mg  
American ginseng extract – 150 mg  
Bitter melon extract – 150 mg  
Fenugreek seed extract – 150 mg  
Milk thistle extract – 100 mg  
Green tea extract – 100 mg  
Yacón leaf extract – 50 mg

Each component is helpful for blood sugar control and insulin balance. The individual herbs – *Gymnema sylvestre*, bitter melon, and fenugreek – have been used for blood sugar control by many cultures since ancient times. Each botanical and antioxidant has an excellent safety profile. Scientific studies are verifying their value.

## GYMNEMA EXTRACT (*GYMNEMA SYLVESTRE*)

*Gymnema* extracts have been shown to enhance glucose control in diabetic dogs and rabbits. Studies have observed that *gymnema* appeared to enhance the production or activity of insulin. Today, clinical studies from India show that *gymnema* extract can be helpful for both insulin-dependent diabetes (IDDM or Type 1) and non-insulin-dependent diabetes (Type 2). *Gymnema* has often been nicknamed “sugar destroyer” because of its ability to neutralize sweet tastes and Ayurvedic physicians have used *gymnema* since ancient times to suppress the taste of sugar. Just chewing a few leaves of this woody vine-like plant can make sweet things no longer taste sweet.

It has been discovered that *gymnema* can actually help regenerate beta cells in the pancreas. *Gymnema* extract appears to work in Type 2 diabetes by enhancing the action of insulin. In one study, 22 Type 2 diabetics were given *gymnema* extract along with their oral antihyperglycemic drugs. All patients demonstrated improved blood sugar control; 21 out of 22 were able to reduce their drug dosage considerably and five were able to discontinue their medication and blood sugar control with the *gymnema* extract alone (Porchezian, *et al*, Shanmugasundaram, *et al*).

## BITTER MELON EXTRACT (*MOMORDICA CHARANTIA*)

The blood sugar lowering action of the fresh juice or extract of bitter melon has been clearly established in modern scientific studies in both Type 1 and Type 2 diabetes. Two different constituents of bitter melon primarily produce blood sugar lowering actions: charantin and p-insulin. Charantin, extracted by alcohol, is a hypoglycemic agent composed of mixed steroids that is more potent than the oral hypoglycemic drug tolbutamide. *Momordica* also contains an insulin-like polypeptide, polypeptide-P, which lowers blood sugar levels when injected like insulin into Type 1 diabetics. Since it appears to have fewer side effects than insulin, it has been suggested as a replacement for some patients, although the likelihood of this application ever being developed is extremely remote. Fortunately, as little as 2 ounces of the juice has shown good results in clinical trials (Srivastava, *et al*, Welihinda, *et al*).

## FENUGREEK SEED (*TRIGONELLA FOENUM-GRÆCUM L.*)

Long used in herbal medicine, scientists are taking a second look at the significant antidiabetic effects of fenugreek seeds (demonstrated in experimental and clinical studies). At least five compounds dramatically lower blood sugar levels and cholesterol, making it helpful for all types of diabetes.

Two important active ingredients are the special soluble fibre of fenugreek along with the alkaloid trigonelline. Defatted fenugreek seed powder given twice daily in a 50-gram dose to Type 1 diabetics results in significant reduction in fasting blood sugar and improved glucose tolerance test results (Sharma, *et al*). There was also a 54% reduction in 24-hour urinary glucose excretion and significant reductions in LDL and VLDL cholesterol and triglyceride values. In Type 2 diabetics, the addition of 15 grams of powdered fenugreek seeds soaked in water significantly-reduced postprandial glucose levels during the meal tolerance test (Mada, *et al*).

In the most recent study, 25 patients with Type 2 diabetes randomly received 1 gram per day of fenugreek seed extract or placebo capsules for two months (Gupta, *et al*). Complex analysis of all the data produced an interesting finding. The fenugreek group had improved blood sugar measurements (fasting blood sugar levels dropped from 148.3 to 119.9 mg/dL), but there was a significant decrease in insulin output. That finding indicates a significant improvement in insulin sensitivity. Through the work

at the Canadian Center for Functional Medicine, a large project designed to further examine the potential of various extracts and fenugreek-derived products in Type 2 diabetes.

### AMERICAN GINSENG EXTRACT

Researchers used whole powder American ginseng root (*Panax quinquefolium*) and found that a dose of about 3 grams before each meal reduced postprandial (after-meal) blood sugar significantly in Type 2 diabetics. Later research has proven that a specific type of extract from American ginseng, containing a certain profile of ginsenosides, has a similar effect to the whole root with greater batch-to-batch consistency and with required intake far less than 3 grams per dose. Authorities now consider American ginseng the most evidence-based herbal therapy for Type 2 diabetes (Franz, *et al*). Research has determined that American ginseng works by the stimulation of pancreatic beta cells with a subsequent increase in insulin secretion. It also has significant antioxidant properties and improves cognitive function. American ginseng has also been shown to possess nerve protection and regeneration properties. This could prove to be valuable in diabetes where peripheral and autonomic nerve damage so often occurs. American ginseng has been used for centuries by Native Americans and it is likely to soon become one of the most sought after of all natural medicines.

### GREEN TEA EXTRACT

Green tea extract plays an important supporting role in the GlucoRegulator formula. Epicatechin (an important flavonoid found in green tea and in the bark of *Pterocarpus marsupium*) has been shown to prevent beta cell damage in rats as well as actually regenerate pancreatic beta cells in diabetic animals. In other words, this flavonoid has actually reversed the animal model for Type 1 diabetes. Not only is green tea one of the highest sources of epicatechin, it also exerts a broader range of beneficial effects. The polyphenols found in green tea exhibit significant antiviral activity against rotavirus and enterovirus – two viruses implicated as a suspected cause of Type 1 diabetes.

### MILK THISTLE EXTRACT

An important active in milk thistle (silymarin) is included due to exciting research on its effect on blood sugar and insulin control. Some scientists studied silymarin to find out whether it was effective in reducing lipid peroxidation and insulin resistance in diabetic patients with

alcoholic cirrhosis. 30 subjects were given 600 mg silymarin daily in addition to their standard treatment. After 4 months of therapy, the silymarin group had a decrease in fasting glucose, daily blood glucose, daily glucosuria and fasting insulin levels. In fact, their insulin requirements were reduced whereas the control group had worsening fasting insulin levels and needed to have their insulin requirements stabilized (Velussi, *et al*).

### YACÓN (SMALLANTHUS SONCHIFOLIAS)

The yacón root is a member of the sunflower family. It is grown for the edible roots, which are sweet and low in calories and are eaten raw. Although the plant grows in warm, temperate Andean valleys, it can be found at altitudes up to 3,200 meters. Yacón has considerable value to dieters and people with diabetes.

The hypoglycemic effect of the water extract of the leaves of *Smallanthus sonchifolius* (yacón) was examined in normal, transiently hyperglycemic and diabetic rats. 10% yacón decoction produced a significant decrease in plasma glucose levels in normal rats when administered by intraperitoneal injection or gastric tube. In a glucose tolerance test, a single administration of 10% yacón decoction lowered the plasma glucose levels in normal rats. In contrast, a single oral or intraperitoneal administration of yacón decoction produced no effect on the plasma glucose levels of diabetic rats. However, the administration of 2% yacón tea *ad libitum* instead of water for 30 days produced a significant hypoglycemic effect on diabetic rats. After 30 days of tea administration, diabetic rats showed improved body (plasma glucose, plasma insulin levels, body weight) and renal parameters (kidney weight, kidney to body weight ratio, creatinine clearance, urinary albumin excretion) in comparison with the diabetic controls. Our results suggest that yacón water extract produces an increase in plasma insulin concentration (Aybar, *et al*).

### DOSAGE

The recommended dosage for WellBetX GlucoRegulator is two tablets, twice daily, preferably between meals, or as directed by a health care practitioner.

This combination of glucose balancing herbs makes WellBetX GlucoRegulator ideal for managing weight loss, blood sugar imbalances including diabetes and can be used safely with other WellBetX supplements for diabetics.

**Note to diabetics:** We want to stress that when WellBetX supplements are used to improve blood sugar control, insulin and/or drug dosages will be altered. Work closely with your prescribing health care practitioner. A good source of information to share with your doctor is the highly acclaimed book: *How to Prevent and Treat Diabetes with Natural Medicine*, 2003, Riverhead Books by Michael Murray, ND and Michael Lyon, MD.

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