



WELLBETX[®] CINNAMON EXTRACT

Supports healthy blood sugar levels

Cinnamon, the apple pie spice, has migrated from the kitchen to the medicine cabinet. This aromatic spice is being studied as an approach for glucose control and cardiovascular disease.

CINNAMON BENEFITS BLOOD SUGAR

Richard Anderson, of the US Department of Agriculture's Human Nutrition Center, was one of the researchers looking at how common foods affected blood sugar. During their investigations they accidentally discovered that cinnamon had a profoundly positive effect on blood sugar.

In one small but significant study, a total of 60 people with Type II diabetes were divided randomly into six groups. Groups 1, 2 and 3 were given 1, 3 or 6 grams of cinnamon daily and groups 4, 5 and 6 were given placebo capsules. The cinnamon was consumed for 40 days followed by a 20-day washout period. "After 40 days, all three levels of cinnamon reduced the mean fasting serum glucose (18-29%), triglyceride (23-30%), LDL cholesterol (7-27%), and total cholesterol (12-26%) levels; no significant changes were noted in the placebo group." (Khan, *et al.*) The study was significant because there were similar glucose lowering effects at the three dosage levels tested and there were no significant changes in any of the placebo groups. There was also no problem with compliance or adverse effects consuming 6 grams or less of cinnamon daily. Of note, lower serum glucose and lipid levels were maintained even when the individuals had not consumed cinnamon for 20 days.

Other studies support these findings. For example, a study demonstrated that cinnamon is a strong potentiator (increases the strength or amount of activity) of insulin. Of the 49 herbs, spices and medicinal plant extracts studied, cinnamon was the most bioactive product. (Broadhurst *et al.*) Animal studies show that cinnamon extracts can prevent insulin resistance from developing even in animals fed a high fructose diet. Researchers showed that when the animals fed a high-fructose diet were given cinnamon extract they were able to utilize glucose as well as those fed a normal diet. (Qin, *et al.*)

HOW CINNAMON WORKS

"On going in vitro or test tube research conducted by Richard Anderson and his colleagues at the USDA Human Nutrition Research Center is providing new understanding of the mechanisms through which cinnamon enhances

insulin activity. In their latest paper, published in the *Journal of Agricultural and Food Chemistry*, (Anderson *et al.*), characterize the insulin-enhancing complexes in cinnamon – a collection of catechin/epicatechin oligomers that increase the body's insulin-dependent ability to use glucose roughly 20 fold." (whfoods.com) For in test tube experiments these water-soluble polyphenol compounds (Type A polymers) mimic insulin, activate insulin receptors and work synergistically with insulin in cells.

HELPFUL FOR HYPERTENSION

It has been observed that cinnamon may play a role in lowering systolic blood pressure. Whole cinnamon, cinnamon extract or chromium was added to the diet of spontaneously hypertensive rats fed either a sucrose or non-sucrose diet. (Diets high in sucrose are associated with insulin resistance and elevation of systolic blood pressure.) Not only did both the whole cinnamon and cinnamon extract reduce the systolic blood pressure of the rats eating the sucrose containing diet, the cinnamon also lowered the systolic blood pressure of the rats consuming a non-sucrose containing diet. The authors noted: "Therefore, BP (blood pressure) regulation may not only be influenced favourably by limiting the amounts of dietary substances that have negative effects on BP and insulin function but also by the addition of beneficial ones, such as cinnamon, that have positive effects." (Preuss, *et al.*)

WHY USE WELLBETX CINNAMON EXTRACT

WellBetX Cinnamon Extract is a patented extract of cinnamon called Cinnulin PF that has been standardized to contain the polyphenol Type A polymers that help potentiate insulin. There are no potentially harmful fat-soluble compounds in this extract. Cinnulin PF is the only clinically tested and validated cinnamon extract on the market.

WELLBETX CINNAMON MAY

- Improve insulin function
- USDA laboratory studies show that cinnamon increases levels of 3 proteins needed for normal insulin signaling processes, a healthy inflammatory response and efficient glucose transportation
- Improve fasting glucose levels in Type II diabetes
- Help ward off diabetic complications
- Help restore healthy LDL and total cholesterol levels
- Reduce triglyceride levels
- Help reduce blood pressure. Studies in animals show that cinnamon may lower systolic blood pressure

WHO COULD BENEFIT FROM WELLBETX CINNAMON EXTRACT

- Those considered pre-diabetic
- Those with Metabolic Syndrome or Syndrome X
- Those with low blood sugar (hypoglycemia)
- People on weight loss programs.
This extract may be especially helpful for those overweight due to insulin resistance
- Type II diabetics
- People with hypertension

EACH CAPSULE CONTAINS

Cinnulin PF Cinnamon 20:1 Extract
150 mg (*Cinnamomum cassia*) bark

DOSAGE

1 capsule, 1-2 times daily or as directed by a health care practitioner.

SAFETY

The FDA has granted cinnamon and cinnamon extract GRAS (Generally Regarded As Safe) status. WellBetX Cinnamon Extract (Cinnulin PF) is a water extract that has, in clinical studies, shown to be exceedingly safe. In contrast, table cinnamon contains undesirable fat-soluble components that may accumulate in the body but are not present in the water extract.

Children: Although the use of WellBetX Cinnamon Extract for children has not yet been studied, it holds promise due to the increase of both Type II diabetes and obesity in children. A dose of 6 to 8 mg/kg of body weight may be suitable. Consult a health practitioner prior to use.

Pregnant/Lactating women: As the effects of a standardized dose of cinnamon has not been evaluated in pregnant and lactating women, it is not recommended unless under the supervision of a health care practitioner.

Drug interactions: Due to its effectiveness, WellBetX Cinnamon Extract could have potential interactions with any drug affecting glucose control, insulin or diabetes medication, requiring lowering dosages of such drugs. These adjustments should be done under the direction of a health care practitioner.

CINNAMON AND YOU

WellBetX Cinnamon Extract is another superior health supplement in the WellBetX glucose-balancing line. The result of advanced clinical research and cutting-edge science, this water soluble cinnamon extract holds much promise for those who want to balance unhealthy blood sugar levels, help to regulate hypertension or lose weight as the result of better insulin control. It's a simple spice that promotes good health – for you and your family.

KEY REFERENCES

Broadhurst C.L., *et al.*, "Insulin-like biological activity of culinary and medicinal plant aqueous extracts *in vitro*," *J Agric Food Chem*, 48 (3):849-852; 2000

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Preuss H.G., *et al.*, "Whole cinnamon and aqueous extracts ameliorate sucrose-induced blood pressure elevations in spontaneously hypertensive rats," *J Amer Coll Nutr*, vol 25, no 2: 144-150; 2006

Qin B., *et al.*, "Cinnamon extract prevents the insulin resistance induced by a high-fructose diet" *Horm and Metab Res*, vol 36 no 2: 119-125; February 2004

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