

**Diabetes** is a chronic disorder of carbohydrate, fat, and protein metabolism characterized by fasting elevations of blood sugar (glucose) levels and increased risk of heart and kidney disease, stroke, and loss of nerve function.

There are two types of Diabetes in humans. These consist of *type I* (insulin-dependent) and *type II* (non-insulin dependent). The two types are different in their mode of action as well as who is affected. Type I diabetes is associated with complete destruction of the Beta cells of the pancreas which manufacture the hormone insulin; therefore, these diabetics rely on insulin regularly to control their blood sugar levels.

*Type II* is associated with obesity, and diet plays an important role in regulating blood sugar. Diabetes is a large disorder, which can be brought on by minute factors. Refined carbohydrates are among the most important contributing factors to diabetes along with reactive hypoglycemia (decreased blood sugar) as well as obesity.

Refined sugars are quickly taken up into the body, which leads to hypoglycemia. This puts stress on the adrenal gland, and ultimately, reactive hypoglycemia ensues. This causes the body to become insensitive to insulin or the pancreas to become ‘exhausted’, which progresses to diabetes.

*So why should you be particularly concerned about this disorder?* Diabetes causes many complications such as troubling blood glucose levels, inadequate insulin production, cardiovascular ailments (or disease), as well as inflammation and damage caused by free radicals. When our body produces ATP, it also releases toxic byproducts (free radicals) that damage our DNA and proteins. Natural antioxidants are produced in our bodies and others can be supplemented in our diets to help further combat damage done by these free radicals.

Researchers have found that oxidative damage plays a role in the damage to tissues caused by Diabetes. It is for this reason that many diabetics would find it useful to explore further ways of gaining antioxidant protection (i.e. through the diet). Diabetes is an auto-immune disease in which the body produces auto antibodies and switches from a cell-mediated response to a humoral response. This refers to a condition in which the body is seeing its own cells as “non-self”. In the case of Diabetes, the body becomes resistant to its own pancreatic hormone known as Insulin. With the relationship between immunity and diabetes apparent, it is of utmost importance that proper measures be taken to uphold the immune system.

With diabetes looming as the seventh leading killer among those in the United States, research is being done vigorously on certain compounds to aid in fighting or reducing its affects. One such compound being meticulously researched may be very familiar in your kitchen, but rarely thought of for medical treatment. *Cinnamon* and its extracts are now being sought out for more than just flavor, and the results are promising.

Overview of the INSULAID product

As a result of careful study and testing, scientists believe that Cinnamon *contains a bioactive component that has the potential to prevent or overcome diabetes*. The method in which Cinnamon reacts in the body is proven to be specific and effective. Research has shown that *its most active compound (MHCP) increased glucose metabolism roughly 20-fold in test tube assay of fat cells*. This number was significantly higher when compared to the affects of 50 other plant extracts.

FTC Researcher identified 3 human randomized, controlled trials. No studies on healthy, non-diabetics and maintenance of healthy blood sugar levels were identified. Insufficient data to determine use in treatment or actual control of insulin sensitivity and blood glucose levels. Also, in vitro and animal studies are not sufficient to scientifically validate cinnamon for use in treating diabetes.

*Cinnamon has also been observed experimentally to prevent the formation of damaging oxygen radicals in a blood platelet assay.*

It is clear that science supports the ability of Cinnamon to react within the body, but the question of safety is always in mind when referring to unknown compounds. Cinnamon has received a GRAS (generally regarded as safe) rating by the FDA and many experiments have demonstrated its usefulness in diabetic patients.

Medical research reveals that Cinnamon may reduce the risk factors for diabetes and cardiovascular disease in people with type II Diabetes.

Although the aforementioned research supports relief for *Type II* diabetics, the diversity of Cinnamon has been proven time and again in studies to be helpful in supporting the fight against additional complications. With Diabetes affecting over 170 million people worldwide, it may be beneficial to consider Cinnamon as a precautionary measure in the fight against Diabetes. Studies have shown that in addition to benefiting Type II diabetics, Cinnamon may benefit individuals with impaired glucose tolerance (i.e., pre-diabetics) whom have not developed full blown Diabetes or other associated ailments.

It is for these reasons that Insulaid has included the cassia form of Cinnamon extract (Cinnulin PF) in its top notch, highly purified, and experimentally proven list of ingredients. The composition of Cinnamon extract is to be regarded as highly as the action within the body. Expert analysis supports that Cinnulin PF is an aqueous extract produced from a superior source of cinnamon bark, offers antioxidant protection, and contains virtually no toxins or cinnamaldehyde found in other Cinnamon extracts; therefore, making it safe to consume for long periods of time.

The experimental results are undeniable; not only is cinnamon useful in the kitchen, but according to the USDA, domestic, as well as international studies, cinnamon can be useful in maintaining good health. In today's fast food world filled with more and more unhealthy options, it is of utmost importance to protect against conditions that could impair our good health.

Medical and scientific investigations have revealed that Cinnulin PF supports healthy glucose and cholesterol management, and offers antioxidant protection (1d). One study showed that people treated with Cinnamon for a period of 40 days showed decreases in fasting glucose between 18 and 29%, cholesterol 12 to 26% and decreases in triglycerides 23-30%. Other sources cite the methodology used in these studies and give alternative views of the statistical significance. One opinion offered states that a lack of “dose-related effect”... generally casts doubt on the results of a study. The original researchers counter that perhaps even 1 gram of cinnamon is sufficient for maximum effect.

Many regard Chromium as nothing more than an element used heavily in conjunction with the steel industry; however, *Chromium is an essential micronutrient that has been observed by experts in the medical field to function as a cofactor in all insulin regulating activities.* Chromium research has produced promising results for years, and is pursued by top scientists and medical researches nationally. Insulaid employs Chromium compounds (as opposed to its pure form) that have been proven by university and other medical studies to have positive affects on diabetic related complications. Peer reviewed studies have shown that Chromium itself works closely with insulin in facilitating uptake of glucose into cells. Studies show that. Although its action sounds complicated and limited, experimentation reveals the bottom line that, without Chromium, insulin’s action is blocked and glucose levels are elevated.

Chromium has been verified by numerous journals and experiments to benefit a multitude of ailments that may otherwise continue to worsen. *Clinical studies show that supplementing the diet with chromium to decrease fasting glucose levels improves glucose tolerance, lowers insulin levels, and decreases total cholesterol and triglyceride levels, while increasing HDL cholesterol levels.*

Insulaid employs multiple ingredients that work closely together to support a strong and healthy endocrine system. Vanadium is one example and has been *shown by scientific experimentation to work closely with Chromium in treating certain conditions that may affect diabetics.* Peer reviewed studies have discerned that Chromium and Vanadium supplementation may support carbohydrate utilization by improving the action of insulin; however, Vanadium’s action is not limited only in conjunction with Chromium. Refereed journals, along with other scientific evidence, have indicated Vanadium’s ability to reduce fasting glucose and improve insulin sensitivity in non-insulin dependent diabetic humans.

Alpha Lipoic acid is a lipid and water-soluble compound that is a powerful antioxidant existing in small portions in our own bodies. Although it may exist in the body, the oxidative damage associated with diabetic complications calls for more protection than that given by the body alone. Peer reviewed journals have upheld the fact that *Alpha Lipoic acid is a potent anti-oxidant that improves renal function in diabetes by lowering glycemia.* When questioning its safety, one need not look further than the fact that it exists as a natural aid to oxidative damage in our own bodies. In addition to this fact, experimental evidence supports that Alpha-lipoic acid seems to be efficient and safe in the treatment of diabetic peripheral neuropathy.

Banaba Leaf (1% corosolic acid) has been researched by those in the medical field and confirmed to be beneficial to some alterations brought on by diabetes. This herbal extract exists in a small dose within our product. The antidiabetic activity of an extract from the leaves of *Lagerstroemia* standardized to 1% corosolic acid (glucosol) has been demonstrated in a random clinical trial involving type II diabetes. *Subjects received a daily oral dose of glucosol and blood glucose levels were measured. Glucosol at daily doses of 32 and 48 mg for 2 weeks showed a significant reduction in the blood glucose levels.* These results show a strong case for Banaba Leaf in aiding aspects of type II diabetes.

Three human studies (identified by FTC researcher) for the use of Banaba to treat diabetes contain small sample populations and suffer from significant methodological errors. All three came out of Japan which has been identified as a country that publishes a high proportion of positive results bringing the issue of publication bias into question. Also, diet and lifestyle differences between Japan and the U.S. may play a role in determining whether or not a supplement might work in a population.

Diabetes is thought of by many as a condition brought on by a slew of complicated phenomenon, but very simple factors may provide more of an impact than most think. Population studies, as well as clinical and experimental research, show diabetes to be one of the diseases most clearly related to inadequate dietary fiber intake. The term 'dietary fiber' refers to the components of the plant cell wall as well as the indistinguishable residues from plant foods. To address this issue, a compound consisting of 50% dietary fiber, Fenugreek has been employed within Insulaid.

Studies done on rats using Fenugreek extracts (ID-1101) were used to evaluate its ability to aid in treating diabetic complications. *In summary, ID-1101, besides its insulinotropic (increasing insulin production) effect, directly improved insulin sensitivity, making it a potentially very valuable therapeutic agent for diabetes treatment.* Additional studies with rats yielded similarly positive results, but showed more variable and specific results. This study was done in a manner that used Fenugreek leaves at variable doses; furthermore, the results showed that blood glucose and serum and tissue lipids were elevated in STZ-induced diabetic rats. In concordance with these results, supplementation of fenugreek leaves lowered the lipid profile in STZ-induced diabetic rats (14b). These two studies reveal that Fenugreek works in stimulating the action of insulin and blood glucose, both vital in the fight against Diabetes. These results present a strong case for the addition of Fenugreek (dietary fiber) into the diet of the diabetic.

**In vitro and animal studies are not sufficient to scientifically validate Fenugreek for use in treating diabetes. FTC**

Ginseng is an herbal substance that has a long history of use in the medical field to combat Diabetes. Although a well-known and highly advertised herbal substance, few are aware of the remarkable effects Ginseng supplementation can produce in diabetic symptoms and complications. *University studies, as well as those within the medical*

*field, have shown that its antidiabetic actions result from the chemical components from adenosine, known as panaxans and others. Insulaid employs Ginseng in a dose of 100 mg, a value that has experimentally produced results in regards to improving antidiabetic conditions. In one study, 36 non-insulin dependent diabetic participants were treated for 8 weeks with ginseng extract at 100 or 200 mg. Ginseng elevated mood, improved psychological performance, and reduced fasting blood sugars, and body weight.*

Bitter Melon (*Momordica charantia*) is a tropical fruit whose various components have been confirmed experimentally to have antidiabetic properties. These different components vary in characteristics, but work together in their proven abilities to aid the effects of Diabetes. Of these are Charantin, a hypoglycemic agent, and Momordica. *One promising attribute of Bitter Melon is its experimentally proven ability to aid in both type I and type II Diabetes.*

**FTC researcher found no double-blind, randomized placebo-controlled trials. Articles review of studies conducted showed poor study design, small population size, etc.**

*Referee journals have shown that Momordica contains an insulin-like polypeptide which lowers blood sugar levels when injected into type I diabetics. The oral administration of bitter melon preparations has shown good clinical trials in patients with Type II Diabetes.*

Gymnema sylvestre is a plant native to the tropical forests of India that has been upheld in effectiveness against Type I and II diabetes by scientific investigation. This is a very important discovery considering that Gymnema Sylvestre is the most prominent of all herbal extracts working within our product. Due to various studies, it is now known that the antidiabetic action of Gymnema extract may be due to its ability to stimulate functioning Beta cells in the pancreas to release insulin.

**FTC researcher identified two human trials, but neither is randomized or double-blinded.**

All the ingredients contained within our product have not only been experimentally proven to be beneficial in aiding, supporting and maintaining various systems for our good health, but are all of the utmost purity and potency that you have come to expect from the A.J. Lanigan's name. After meticulous research, we are proud to announce a new product, Insulaid, manufactured by A.J. Lanigan. Our goal is to produce products of highest quality, and we are confident that Insulaid sits on a plateau alone. This product is intended to help maintain good endocrine function, support healthy levels of insulin, glucose, and cholesterol, and to further induce formation of antioxidants, which help combat free radical damage. For further information regarding Insulaid or any of our other fine products email us.