

How Does Nixulin™ Influence Impaired Insulin Sensitivity?

Nixulin™ is a blood sugar support supplement that contains Biotin (300 mcg), Chromium (300 mcg), and Diethyl Azelate (125 mg).

Biotin is found in foods like eggs, sugar, milk, and bananas. Biotin is a water-soluble vitamin that is recognized as an integral component in a variety of carboxylation reactions, playing a role in glucose-stimulated insulin secretion, glucose uptake, and suppression of glucose synthesis in the presence of high plasma glucose. It helps metabolize or convert dietary carbohydrates, fats, and proteins into energy for heightened metabolic support, healthier blood sugar levels, and optimal fatty acid synthesis and amino acid breakdown.

Chromium is an essential mineral that plays a role in how insulin helps the body regulate blood sugar levels. Chromium picolinate also enhances insulin sensitivity and insulin transfer into cells by helping to boost the number of binding sites on the surface of cells in the gut – processes that support metabolism, encourage healthy blood sugar levels, and heighten the body's use of sugar for energy. It has been reported that chromium deficiencies contribute to glucose intolerance, hyperglycemia, and hypertriglyceridemia as well as dyslipidemia. Supplementation with chromium picolinate has shown promise in limited clinical studies.

Diethyl azelate (DEA) is an ester of azelaic acid — a naturally occurring compound found in plants, animals, and humans. DEA and other azelates are naturally produced by the body where they support healthy immune responses. More specifically, azelates such as DEA, modulate the transfer of cellular signals that are responsible for key processes, including fat burning pathways, blood sugar balance, and insulin responses.

Azelates can also be found in grains and grain-derived products, along with fermented foods that undergo bacterial processing of fatty acids. For example, olives are converted to an edible form due to fermentation by bacteria called Lactobacilli. During this process, the Lactobacilli ferment a compound in olives called oleic acid into azelaic acid and azelates. Olive rinds also contain substantial amounts of azelaic acid, making them a natural source of beneficial nutriment.

How is Nixulin™ Beneficial For People With Impaired Insulin Sensitivity?

Impaired insulin sensitivity is a condition in which cells in the body become less responsive to the hormone insulin, leading to elevated blood sugar levels. Normally, insulin helps regulate glucose uptake by cells, enabling them to use it for energy or store it. However, with impaired insulin sensitivity, cells fail to respond properly to insulin, causing the pancreas to produce more insulin to compensate. Prolonged impaired insulin sensitivity can lead to prediabetes, type 2 diabetes, and various health issues.

Biotin and Chromium In Combination

Earlier data from in vitro and in vivo studies using chromium picolinate and biotin have demonstrated greater effects on glucose disposal and lipid metabolism when these nutrients were combined. Data from Oral Glucose Tolerance Tests (OGTTs) demonstrated that patients who were supplemented with chromium and biotin adapted better to a glycemic challenge than patients on placebo. Effects on lipid metabolism in the active chromium/biotin group trended favorably. This has been noted in several studies. Downward trends of triglycerides, total cholesterol, and coronary risk lipid ratios may reflect increased efficiency in glycemic control. Supplementation with chromium picolinate and biotin has been shown to be well tolerated. Adverse events have been limited. The safety of both chromium picolinate and biotin is well established; both are generally recognized as safe.

The combination of chromium picolinate and biotin supplements in patients with poorly controlled diabetes receiving antidiabetic therapy positively affected glucose management as measured by the response to a glucose challenge and fructosamine levels. Chromium picolinate/biotin supplementation may represent an effective adjunctive therapy for patients with poorly controlled diabetes with dyslipidemia.

Diethyl Azelate Is An SGLT1 Blocker

SGLT1 (sodium-glucose cotransporter 1) is a protein responsible for reabsorbing glucose from the gastrointestinal tract into the bloodstream. SGLT1 is primarily located in the small intestine and plays a crucial role in glucose absorption after a meal. By inhibiting the activity of SGLT1, SGLT1 blockers reduce the absorption of glucose, resulting in lower postprandial blood sugar levels.

Mechanism of Action:

SGLT1 blockers work by blocking the SGLT1 protein in the small intestine, preventing the reabsorption of glucose into the bloodstream, effectively reducing the amount of glucose that enters the bloodstream after a meal. By targeting glucose absorption at its source, SGLT1 blockers offer a unique mechanism of action compared to other antidiabetic medications.

Benefits For Diabetics:

Blood Sugar Control: By reducing glucose absorption in the small intestine, SGLT1 blockers help regulate postprandial blood sugar levels, leading to improved glycemic control. This can contribute to lower HbA1c levels, a measure of long-term blood sugar control.

Cardiovascular Benefits: Some studies suggest that SGLT1 blockers may have cardiovascular benefits beyond blood sugar control. For instance, they may reduce blood pressure, improve lipid profiles, and decrease the risk of cardiovascular events. These potential effects make SGLT1 blockers an intriguing therapeutic option for individuals with type 2 diabetes who are at an increased risk of cardiovascular complications.

These benefits were demonstrated through a clinical study involving a group of individuals who were experiencing or at risk of impaired insulin sensitivity. More specifically, the study examined the impact of DEA on glucose (blood sugar) and insulin levels. The procedure involved measuring fasting insulin and fasting glucose levels, which are markers that indicate the body's ability to regulate blood sugar levels on its own.

The findings from the clinical study showed that overweight and obese adults with impaired responses to insulin who took a supplement containing DEA for three weeks experienced healthier fasting insulin levels as well as fasting glucose levels. Fasting glucose level is an indication of blood sugar regulation when an individual has not eaten overnight. Moderate to high fasting blood sugar levels (on an empty stomach) indicate that the body's cells do not respond properly to insulin and that the person has an increased risk for uncontrolled blood sugar levels.

For the participants who took diethyl azelate for three weeks, fasting insulin levels lowered by 38% and fasting glucose levels lowered by 5.9%, demonstrating that DEA has a strong influence on impaired insulin sensitivity

How Is Nixulin™ Beneficial For Weight Loss?

By inhibiting glucose absorption in the small intestine, Nixulin™ helps reduce caloric intake and contributes to weight loss. The potential benefits in this regard include caloric reduction, appetite regulation, improved glycemic control, and potential cardiovascular benefits. It should be used as part of a comprehensive approach that includes diet and lifestyle modifications. As research in this area continues to evolve, Nixulin™ holds promise as a valuable addition to the armamentarium for weight loss management, providing individuals with new possibilities for achieving and maintaining a healthy weight.

Benefits for Weight Loss:

Caloric Reduction: By inhibiting glucose absorption, Nixulin™ effectively reduces caloric intake. As carbohydrates are a significant source of calories in the diet, decreasing their absorption leads to a decrease in overall energy intake. This caloric deficit can promote weight loss over time, especially when combined with a balanced diet and regular physical activity.

Appetite Regulation: The reduction in glucose absorption can lead to changes in gut hormone secretion associated with increased satiety and decreased appetite. These hormonal changes can contribute to better portion control and reduced food cravings, supporting weight loss efforts.

Improved Glycemic Control: By preventing the rapid rise in blood sugar levels after meals, Nixulin™ helps regulate glucose metabolism and minimize insulin fluctuations, which can contribute to improved weight management.

In Summary

Nixulin™ is a promising addition to the toolkit for managing insulin sensitivity, supporting healthy blood sugar levels, and achieving sustainable weight loss goals. Its natural origin and favorable safety profile further encourage its long-term use as a potential asset in promoting overall metabolic and cardiovascular health.