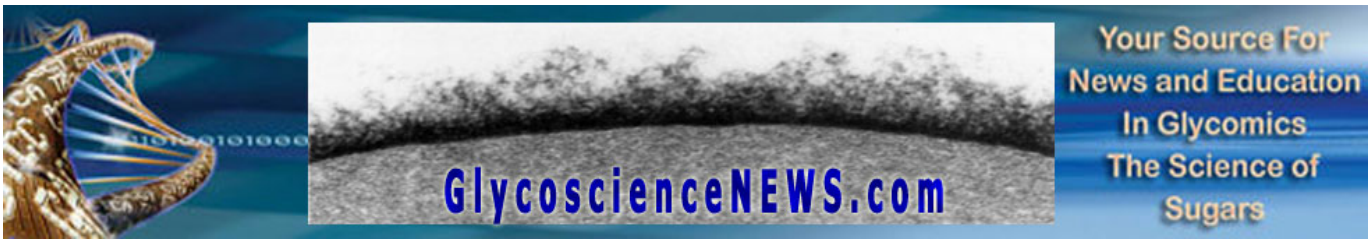

Kidney and Pancreas Are Protected by Trehalose

New study shows reduction in Apoptosis, Autophagy and Pyroptpsis in Diabetic Rats when Trehalose is Combined with Guava Juice

Glycoscience Lesson #43

by JC Spencer

Guava juice has anti-oxidant, anti-inflammatory features with other known benefits for diabetics. But, when combined with Trehalose, something significant happens that verifies how this One Smart Sugar protects cells.

An unhealthy pancreas does not metabolize fat efficiently resulting in fat buildup inside the pancreas. Inflammation and medications often compound the problem as more fat tissue is overlaid. The fatty pancreas can become more damaged by high levels of fructose as a person becomes more insulin resistant.

The main cause for an unhealthy kidney is toxic food and drink. Think of filtering toxins out of harmful food and water BEFORE consumption. If you do not use a filter; your kidney becomes the filter. When you do not strain out toxins; they will most certainly strain you. You were given two kidneys because one may not be enough. Oxidative stress and inflammatory conditions lower the immune system which would subject the body to various diseases.

This new research teaches us more about how Trehalose reduces oxidative stress in the cell and prevents possible DNA damage. Hydrogen peroxide (H_2O_2) and hypochlorous acid (HOCl) are reactive chemicals found in Guava. Working together they can result in oxidative stress, free radical activity and DNA damage.

Trehalose was found to selectively reduce (H_2O_2) without reducing the stand-alone weak acid (pH 6.8) (HOCl). This enables the phytochemical HOCl to do its highly functional biological assignment to treat inflammation of tissue by activating cell signaling pathways.

Great communication makes things happen. Stay tuned for more breaking NEWS about Glycoscience, the future of healthcare.

The combination of Trehalose and guava juice protects the pancreas and kidney against Type 2 Diabetes injuries induced in the rat study.

Here is the Abstract:

Molecules. 2016 Mar 10;21(3). pii: E334. doi: 10.3390/molecules21030334.
Quercetin-Rich Guava (Psidium guajava) Juice in Combination with Trehalose Reduces Autophagy, Apoptosis and Pyroptosis Formation in the Kidney and Pancreas of Type II Diabetic Rats.
Lin CF[1], Kuo YT[2], Chen TY[3], Chien CT[4].

Abstract
We explored whether the combination of anti-oxidant and anti-inflammatory guava (Psidium guajava) and trehalose treatment protects the kidney and pancreas against Type II diabetes (T2DM)-induced injury in rats. We measured the active component of guava juice by HPLC analysis. T2DM was induced in Wistar rats by intraperitoneal administration of nicotinamide and streptozotocin and combination with high fructose diets for 8 weeks. The rats fed with different dosages of guava juice in combination with or without trehalose for 4 weeks were evaluated the parameters including OGTT, plasma insulin, HbA1c, HOMA-IR (insulin resistance) and HOMA-β (β cell function and insulin secretion). We measured oxidative and inflammatory degrees by immunohistochemistry stain, fluorescent stain, and western blot and serum and kidney reactive oxygen species (ROS) by a chemiluminescence analyzer. High content of quercetin in the guava juice scavenged H2O2 and HOCl, whereas trehalose selectively reduced H2O2, not HOCl. T2DM affected the levels in OGTT, plasma insulin, HbA1c, HOMA-IR and HOMA-β, whereas these T2DM-altered parameters, except HbA1c, were significantly improved by guava and trehalose treatment. The levels of T2DM-enhanced renal ROS, 4-hydroxynonenal, caspase-3/apoptosis, LC3-B/autophagy and IL-1β/pyroptosis were significantly decreased by guava juice and trehalose. The combination with trehalose and guava juice protects the pancreas and kidney against T2DM-induced injury.

Source and References:

Trehalose and Guava Juice protect the Kidney and Pancreas
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Change Your Sugar, Change Your Life **http://DiabeticHope.com**
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