Examining the Mechanism in which Chlorogenic Acid Inhibits Glucose from Diffusing from the Small Intestine

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Green coffee bean pills are often claimed to help facilitate weight loss due to their active ingredient: chlorogenic acid. Chlorogenic acid has been shown to help to reduce the absorption of carbohydrates into the bloodstream from the small intestines which lowers sugar and insulin spikes (Leech, 2014). If glucose is not absorbed into the bloodstream, then it is excreted, which results in weight loss. Because chlorogenic acid is significantly bigger than glucose, it either affects the lining of the small intestines or binds to glucose to inhibit it from passing through the membrane. To test whether or not chlorogenic acid will bind to glucose, a solution of equal amounts of chlorogenic acid and glucose is made and placed into dialysis tubing. After an eight hour test run, the solution outside of the dialysis tubing is tested using a refractometer to determine the amount of glucose that has diffused. This is then compared to the amount of diffusion in the control. After this, a pH test determines if any acid has diffused through and if so, a titration is performed to determine the amount. The hypothesis was disproved and showed that chlorogenic acid did not inhibit that passing of glucose through a semipermeable membrane by binding with it. Leech, Joe. "Does Green Coffee Bean Extract Work? A Detailed Review."Authority Nutrition - An Evidence Based Approach. Authority Nutrition, n.d. Web. 03 Dec. 2014. http://authoritynutrition.com/green-coffee-bean-extract-review/.

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