**A Randomized, Controlled, Double-Blind, Parallel-Group, Clinical Trial to Test the Short-Term Efficacy and Safety of the Enzymedica's GR Plus Enzyme-Based Supplements on Blood Glucose and Insulin-Resistance; James Blum**, Ph. D.[1], Tom Bohager[2].

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## ABSTRACT

This clinical trial tested the ability of a given blend of ingredients (GR Plus) to reduce the amount of serum glucose following a starch challenge. Subjects reported to the Research Clinic following a 10-hour fast. Following a glucose stick, subjects were given a standard starch meal and then subsequent glucose measures every fifteen minutes for an hour. Subjects had at least two baselines, some more, and then product testing. Subjects could do no more than two tests per week.

Thirty-four (34) subjects completed the trial with at least two baselines and one run with product. There were a total of 140 separate runs with either a placebo or the product. A sophisticated analysis has proved that the product, GR Plus, demonstrated lower glucose curves than the within-subject control curves at a highly statistical level. The area under the curve for the GR Plus was only 85% of that for the placebo for the small dose and preliminary tests show a far greater reduction with more GR Plus ingested.

What does this mean? This trial demonstrates that the product, GR Plus, will both clinically and statistically reduce the amount of serum glucose found in the blood following a starch meal challenge. Elevated serum glucose is a major component in glucose metabolism, pre-diabetes, leading to actual diabetes. Elevated serum glucose may lead to adipose deposits when left elevated for long periods. The epidemiology of diabetes clearly shows that uncontrolled diabetes leads to many adverse conditions including heart disease, retinal damage, erectile dysfunction, and other significant problems. Therefore, these ingredients when taken during a carbohydrate meal will dramatically reduce the serum glucose load.

Potential limitations include the intake of different carbohydrates, the interaction of carbohydrates, fats, and proteins during the same meal, the timing and amounts of the GR Plus ingestion, as well as the overall health of the individual. Further testing will help define some of these potential limitations.

However, the medical advisors for the trial remain exceedingly excited about these results. Current therapy to reduce serum glucose includes various insulins, byetta, glyberides, and various supplements. Both the insulins and byetta require injections and represent a logistic challenge to compliance. Thus, a dietary supplement that is effective in reducing serum glucose to a carbohydrate meal has huge health potential. Individuals with various conditions that include overweight, insulin-resistance, diabetes, and other could benefit from this product. Additionally, this product has very little-to-no potential to induce hypoglycemia since it requires the ingestion of dietary carbohydrates before action. It can only prevent hyperglycemia states and cannot induce hypoglycemia.

An upside to this product that has not quantified is how well it might work as a component to weight loss.