

NutraMeta™ - Metabolic Effects White Paper



NUTRAMETA™
BY PROSTASIS

Research Summary:

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Research Conducted With:

Duke Health

NutraMeta™ - A NutraSimilar™ For Metabolic Improvement

Introduction:

NutraMeta™ is a patented NutraSimilar™ supplement developed for weight management and metabolic health. The patented blend of five ingredients was developed through an AI-driven technique that identified natural ingredients that when combined could support a meaningful improvement in metabolic health without the side effects of synthetic medications. The main areas of research were to evaluate NutraMeta's effect in weight loss, cholesterol lowering, liver fat reduction and how it compared to existing GLP-1RA products.

Study Designs:

The studies were designed by Prostasis with collaboration from Duke University and conducted at Duke facilities. All of these studies evaluated NutraMeta's effect on mice fed with NutraMeta™ and without (Control) using a standard and High Fat Diet (aka – western diet).

Study Results:

In summary, the data suggests that NutraMeta™ had a beneficial effect in all of the metabolic studies conducted in both the High Fat and Low-Fat diets.

In the longer-term weight loss study, mice lost 19% more overall weight than the control group and 35% more fat vs lean muscle mass than the control group.

In the GLP-1RA comparator study, mice on NutraMeta™ lost 9% of their body weight compared to the Control group, GLP-1RA mice lost 12%, and mice on NutraMeta™ and GLP-1RA lost 29% compared to the Control Group equating to a 142% improvement over GLP-1RA alone. The mice on NutraMeta™ lost substantially less lean muscle mass than mice on GLP-1RA or control.

In the cholesterol study, mice on NutraMeta™ experienced a 28% reduction in total cholesterol versus mice in the control group.

In the liver health study, mice on NutraMeta™ experienced a 45% reduction in liver fat content and a 31% reduction in liver weight vs the control group.

Post Study Hypothesis:

NutraMeta™ works through multiple pathways to improve energy expenditure, preferentially burn fat, reduce cholesterol and improve liver health leading to a reduction in body weight - primarily through loss of fat mass.

NutraMeta™ - For Fat Loss – Not Muscle Loss

NutraMeta™ - Effect On Fat Loss

Introduction:

NutraMeta™ is a patented NutraSimilar™ supplement developed for weight management and metabolic health. The proprietary blend of five natural ingredients was theorized to help manage weight and improve metabolic function.

Study Design:

In this study, we evaluated the effects of NutraMeta™ on the change in body weight when given to obese mice fed a western-style high fat diet (HFD). Obese mice were fed either a HFD alone or a HFD containing NutraMeta™ for 12 weeks. Body weight and body composition was monitored throughout the study.

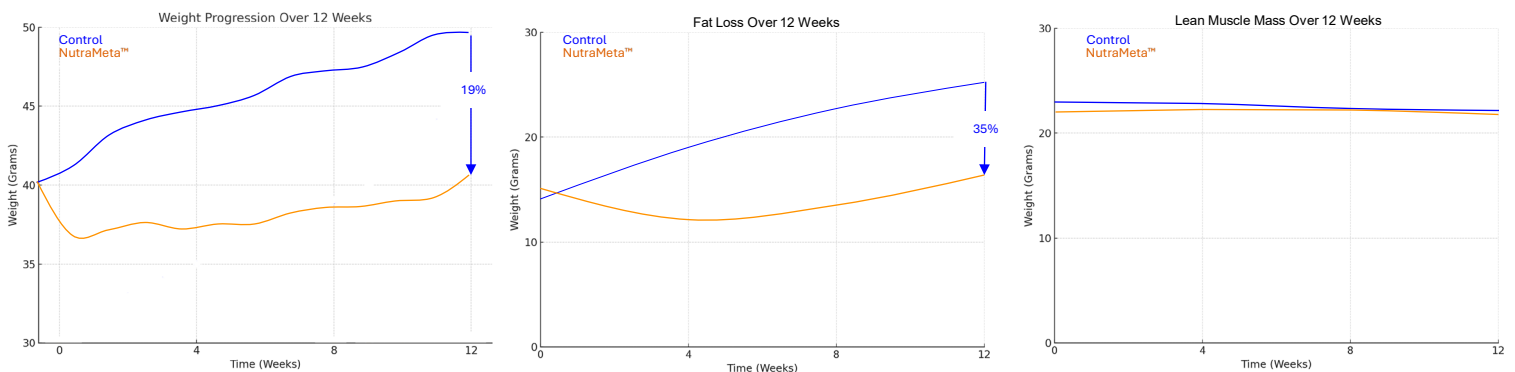
Study Results:

The study showed that NutraMeta™ produced a significant (19%) and sustained reduction in body weight over the 12 weeks of the study. This difference in body weight was the result of a 35% reduction in fat mass without changes in lean muscle mass.

Post Study Hypothesis:

NutraMeta™ works through multiple mechanisms to improve energy expenditure, reduce inflammation, and preferentially burn fat, leading to a reduction in body weight primarily through loss of fat mass.

NutraMeta™ effect on body weight of mice receiving an HFD



NutraMeta™ - Optimizing Exogenous GLP-1

NutraMeta™ - Optimizing Exogenous GLP-1

Introduction:

NutraMeta™ is a patented NutraSimilar™ supplement developed for weight management and metabolic health. NutraMeta™ contains five ingredients that are theorized to help manage weight and improve metabolic function by optimizing the actions of an exogenous GLP-1 receptor agonist (GLP-1RA).

Study Design:

In this study, we evaluated the effects of NutraMeta™ on the change in body weight and lean muscle mass of mice treated with or without a GLP-1RA. Mice were randomized into 4 groups; i) placebo, ii) NutraMeta™ diet, iii) GLP-1RA treatment, and iv) NutraMeta™ diet plus GLP-1RA treatment. Mice were monitored daily for 7 days to observe the impact on body weight and body composition.

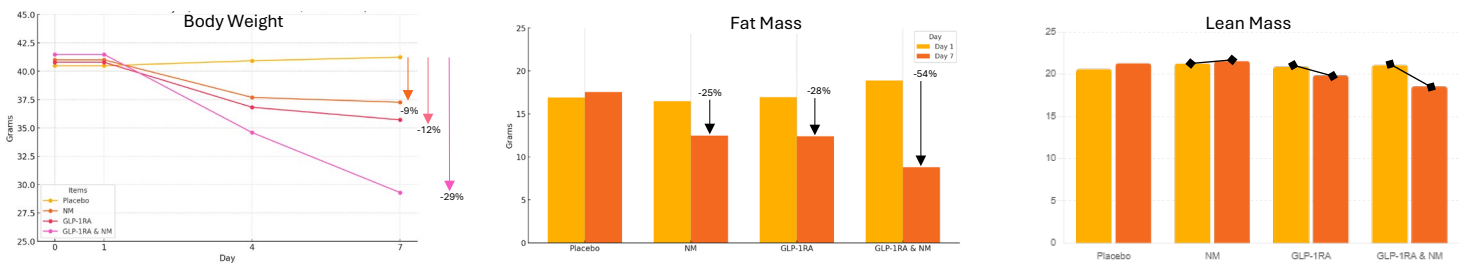
Study Results:

In comparison to placebo controls, mice on a NutraMeta™ diet lost 9% of body weight, mice treated with a GLP-1RA alone lost 12% of body weight, and the combination of the NutraMeta™ diet with a GLP-1RA produced a 29% reduction of weight loss – equating to a 142% increase in weight loss over GLP-1RA alone. The decrease in body weight was mostly due to loss of fat mass rather than lean mass as seen in the middle and right charts. The NutraMeta™ alone increased lean muscle mass.

Post Study Hypothesis:

NutraMeta™ is thought to activate several metabolic programs that synergize with a GLP-1RA to reduced body weight. These include systems that may increase energy expenditure in a way that increases fat metabolism. Together, these results suggests that NutraMeta™ could be used as a complementary supplement to optimize GLP-1RA treatment, or as a post-GLP-1RA supplement to sustain weight loss.

NutraMeta™ (NM) Compared to GLP-1 RAs and Placebo



NutraMeta™ - Lowers Cholesterol

NutraMeta™ - Effect On Cholesterol

Introduction:

NutraMeta™ is a patented NutraSimilar™ supplement developed for weight management and metabolic health. NutraMeta™ is theorized to help reduce cholesterol levels.

Study Design:

In this study, we measured the effects of NutraMeta™ on the change in cholesterol levels in mice fed both a western High Fat Diet (HFD) with NutraMeta™ and without. After 12 weeks blood was collected to measure levels of cholesterol.

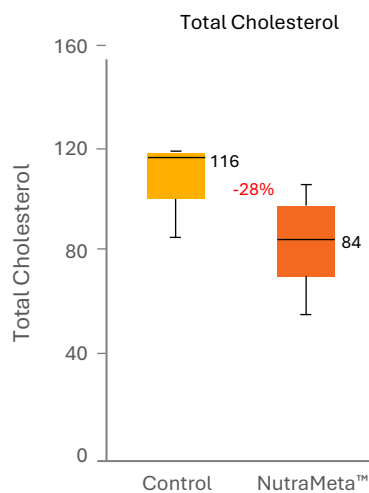
Study Results:

The study showed that NutraMeta™ produced a 28% reduction in cholesterol levels in mice on the HFD compared to the control group.

Post Study Hypothesis:

NutraMeta™ works through multiple mechanisms to improve energy efficiency, preferentially burning fat, and reducing weight, resulting in reduction in cholesterol levels.

NutraMeta™ effect on Total Cholesterol



NutraMeta™ - Improves Liver Health

NutraMeta™ - Effect On Liver Health

Introduction:

NutraMeta™ is a patented NutraSimilar™ supplement that includes 5 ingredients developed for weight management and metabolic health. NutraMeta™ is theorized to help manage weight and improve liver health.

Study Design:

In this study, we evaluated the effects of NutraMeta™ on liver weight and liver fat content in obese mice. Mice were fed a high fat diet (HFD) that resembles a western-style diet to induce obesity and liver disease. After which, the mice were randomly assigned to continue the HFD alone or fed a HFD supplemented with NutraMeta™. After 12 weeks the livers were weighed and evaluated for fat composition.

Study Results:

The study showed that NutraMeta™ reduced liver fat content by **45%** (left chart) along with a **31%** reduction in liver weight (right chart).

Post Study Hypothesis:

NutraMeta™ works through multiple mechanisms to improve energy efficiency, preferentially burning fat and reducing weight. This effect has a positive impact on liver health.

NutraMeta™ Effect on Liver Mass

