



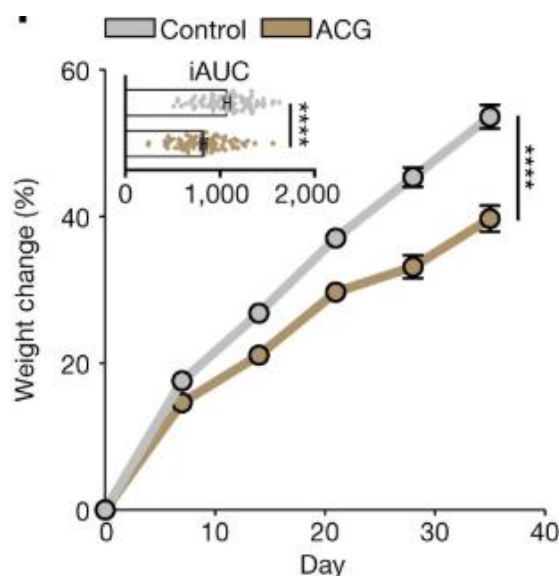
Modulating Weight Gain and Loss by Understanding the Mechanism of Smoking-Related Weight Changes



Reference Number: **2078** \ Principal Investigators: **Prof. Eran Elinav** \ Patent Status: **US20230330051A1**

A new approach to prevent weight gain during smoking cessation (SCWG) focuses on the gut microbiome and metabolites like dimethylglycine (DMG) and acetylglycine (ACG).

This research indicates their significant role in SCWG and weight regulation in non-smokers, paving the way for new weight management strategies



ACG supplementation of mice fed with a high-fat diet significantly reduced the weight gain rate.

APPLICATIONS

- Modalities for Weight Management: Development of treatments targeting these metabolites to aid in weight loss.
- Weight Modulation: Potential use of identified metabolites to control weight gain in populations that have difficulty maintaining a healthy weight (e.g., cancer patients).
- Prevention of Weight Gain in Smoking Cessation: Metabolite-based interventions that prevent SCWG, helping smokers quit without the concern of weight gain.

STAGE OF DEVELOPMENT

The technology has been demonstrated across multiple electrosynthesis processes, including redox-neutral, oxidative, and reductive transformations. It has been successfully scaled up to reactions of 50 mmol, highlighting its scalability and industrial potential.

ADVANTAGES



Evidence-Based:
Supported by robust animal model data and preliminary human data



Microbiome-Targeted
Approach

REFERENCES

- Fluhr, L. et al, *Nature*

