Insights: Publications

Mitochondrial uncoupler BAM15 reverses diet-induced obesity and insulin resistance in mic

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Obesity is a health problem affecting more than 40% of US adults and 13% of the global population. Anti-obesity treatments including diet, exercise, surgery and pharmacotherapies have so far failed to reverse obesity incidence. Herein, we target obesity with a pharmacotherapeutic approach that decreases caloric efficiency by mitochondrial uncoupling. We show that a recently identified mitochondrial uncoupler BAM15 is orally bioavailable, increases nutrient oxidation, and decreases body fat mass without altering food intake, lean body mass, body temperature, or biochemical and haematological markers of toxicity. BAM15 decreases hepatic fat, decreases inflammatory lipids, and has strong antioxidant effects. Hyperinsulinemic-euglycemic clamp studies show that BAM15 improves insulin sensitivity in multiple tissue types. Collectively, these data demonstrate that pharmacologic mitochondrial uncoupling with BAM15 has powerful anti-obesity and insulin sensitizing effects without compromising lean mass or affecting food intake.

Related People



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