

TOTUM-63 REDUCES BODY WEIGHT AND IMPROVES INSULIN SENSITIVITY IN OBESE MICE THROUGH PLEIOTROPIC EFFECTS ON VARIOUS METABOLIC ORGANS

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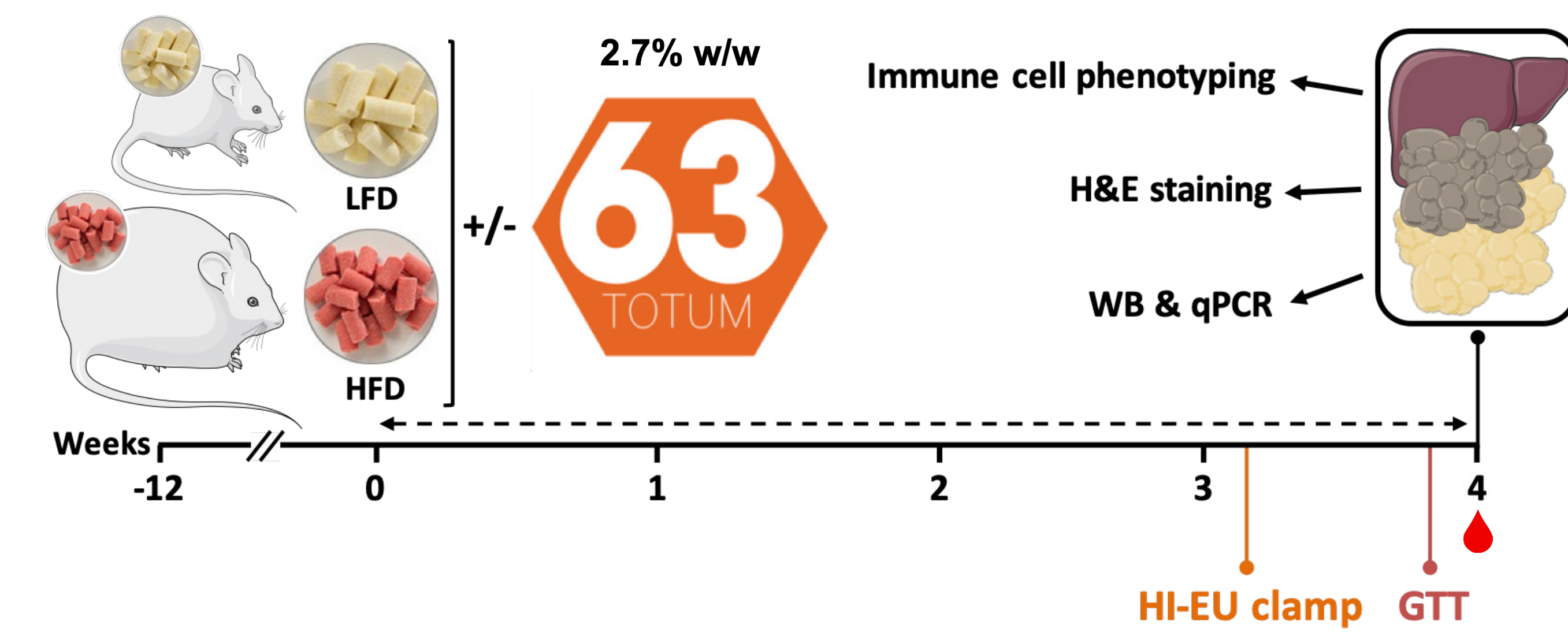
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BACKGROUND

The worldwide prevalence of obesity, metabolic syndrome and Type 2 Diabetes is reaching epidemic proportions that urge the development of new therapeutic strategies. TOTUM-63 is a plant-based active substance, which has recently been shown to reduce body weight, fasting glycemia, glucose intolerance and fatty liver index in a Phase II clinical trial conducted in prediabetic obese subjects.

METHODS

To investigate the effects and underlying mechanism(s) of TOTUM-63 on metabolic homeostasis in insulin-resistant obese mice, C57Bl6/J male mice were fed either a low-fat (LFD) or high-fat diet (HFD) for 12 weeks followed with or without TOTUM-63 (2.7% w/w) supplementation for 4 weeks. Food intake, body weight, body composition, fasting plasma parameters, systemic insulin sensitivity (HI clamp) and glucose tolerance (GTT), tissue-specific insulin signaling, hepatic steatosis, and liver, epididymal white adipose tissue (eWAT) and brown adipose tissue (BAT) inflammation were determined.



CONCLUSION

TOTUM-63 reverses hepatic steatosis and insulin resistance in obese mice, likely through pleiotropic effects on various metabolic organs. Altogether, supplementation with plant-derived TOTUM-63 may constitute a promising novel nutritional approach for alleviating metabolic dysfunctions in established Type 2 Diabetes.

□ LFD ■ HFD ■ HFD+TOTUM-63

