

TOTUM-63 LOWERS ADIPOSE TISSUE INFLAMMATION AND REVERSES BOTH HEPATIC STEATOSIS AND INSULIN RESISTANCE IN HIGH-FAT DIET-INDUCED OBESE MICE

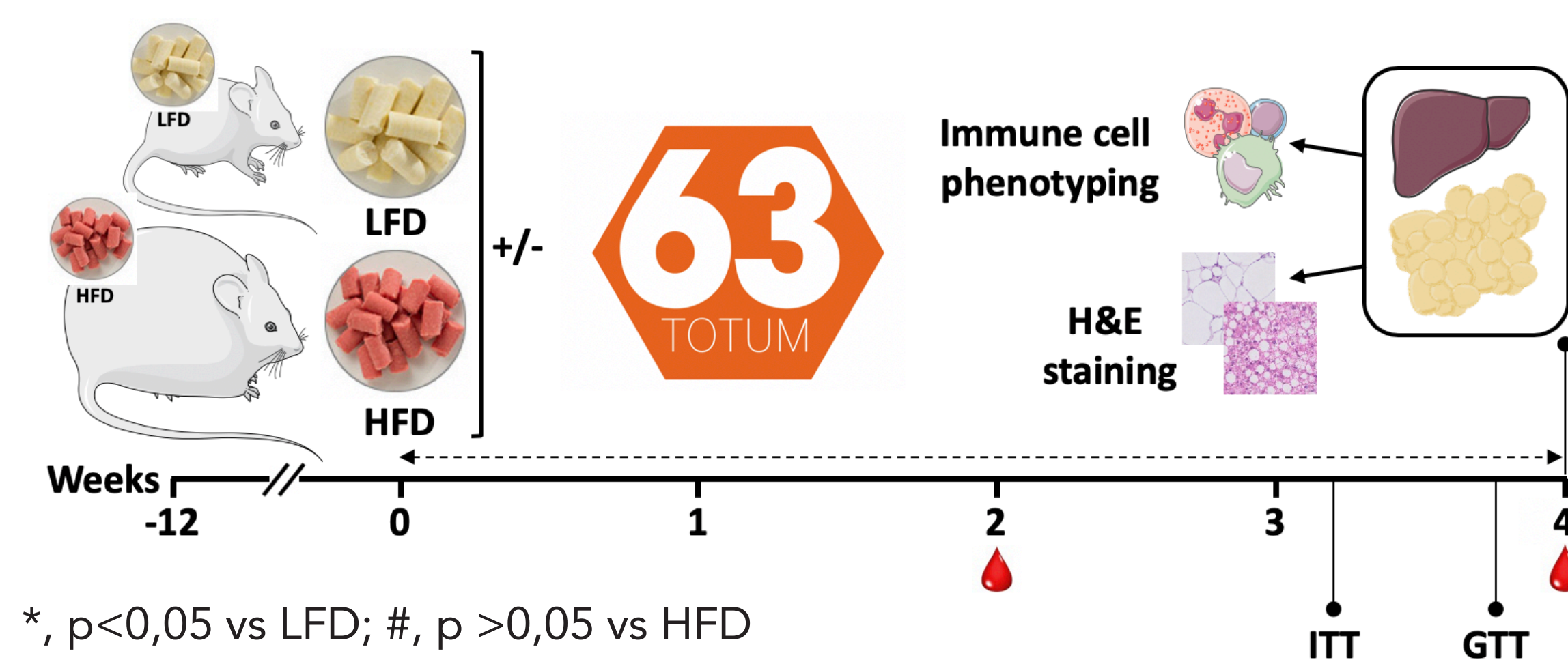
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BACKGROUND

The worldwide prevalence of obesity, metabolic syndrome and type 2 diabetes is reaching epidemic proportions that urge the development of new therapeutic strategies. Obesity-associated meta-inflammation contributes to non-alcoholic fatty liver disease (NAFLD) and plays a central role in the development of insulin resistance and type 2 diabetes. TOTUM-63 has recently been developed for the management of prediabetes and shown to prevent high-fat diet-induced metabolic disorders in mice.

METHODS

To investigate whether TOTUM-63 could improve metabolic homeostasis in insulin-resistant obese mice, C57Bl6/J male mice were fed either a low- (LFD) or high-fat diet (HFD) for 12 weeks followed by 4 additional weeks with or without TOTUM-63 supplementation (2.7 % w/w). Food intake, body weight, body composition, fasting plasma parameters, epididymal WAT and liver immune cell phenotypes, adipocyte size distribution, hepatic steatosis, and systemic insulin sensitivity (ITT) and glucose tolerance (GTT) were determined.



CONCLUSION

TOTUM-63 reverses hepatic steatosis and insulin resistance in obese mice by a mechanism that might involve reduction of pro-inflammatory adipose tissue macrophages. TOTUM-63 is a promising new candidate for alleviating meta-inflammation, NAFLD and metabolic dysfunctions in established type 2 diabetes.

