



TECHNOLOGY

IL-25 treatment of obesity and metabolic disorders

OVERVIEW

Obesity is associated with chronic low grade inflammation in adipose tissues, mainly due to the accumulated immune cells (Th1/Th17 cells, macrophages etc.) that release pro inflammatory cytokines into the system. These cytokines contribute to development of the "metabolic syndrome." IL-25 is an important regulator in the gut mucosa; it inhibits pro-inflammatory Th1 and Th17 cytokine responses, and promotes Th2 immunity which plays an important role in bodily responses to allergy, asthma and enteric parasite infections.

UMB inventors have shown that IL-25 treatment in obese mice on high fat diet results in 20% body weight loss, loss of adipose tissue mass, improved glucose metabolism and lower liver mass relative to control mice. Thus, IL-25 treatment regimen offers a cheaper and safer alternative to bariatric surgery and possibly a novel method to control obesity-related metabolic disorders.

Safety, efficacy and toxicity studies in animal models of obesity and metabolic disorders are required.

APPLICATIONS

Treatment of obesity and obesity-associated disorders through the administration of the cytokine IL-25

ADVANTAGES

-Treatment with IL-25 would be an improvement over bariatric surgery, which is expensive and associated with complications. Also, for the severely obese and elderly, geriatric surgery shows no improvement relative to normal care. -Treatment with IL-25 would be an improvement over current obesity drugs such as Orlistat, which are only minimally effective and are associated with varying side-effects

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PATENT STATUS

-Issued, US, No.9,724,392

LICENSE STATUS

Available for licensing

CATEGORIES

- Therapeutics
- Biologics

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EXTERNAL RESOURCES

- [Parasitic nematode-induced modulation of body weight and associated metabolic dysfunction in mouse models of obesity.](#)
- [Roundworm Quells Obesity and Related Metabolic Disorders](#)
- [Critical role of IL-25 in nematode infection-induced alterations in intestinal function.](#)
- [Macrophages as IL-25/IL-33-responsive cells play an important role in the induction of type 2 immunity.](#)

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