

Diabetes drug as a candidate for treatment of obesity and other metabolic diseases

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Technology description

Summary

Dipeptidyl peptidase 4 (DPP4) inhibitors are a commonly used treatment for type II diabetes mellitus. These FDA-approved drugs have been in wide use for over a decade, but have not been generally considered as a treatment for other metabolic disorders. Recent research suggests that DPP4 may play a wider role in metabolic diseases such as obesity and in related cardiovascular diseases such as atherosclerosis. This technology suggests DPP4 inhibitors for the treatment of inflammation implicated in a wider range of metabolic and related cardiovascular diseases. These inhibitors have potential as a drug therapy for patients who are obese, pre-diabetic, or otherwise suffering from metabolic disease.

DPP4-induced adipose tissue inflammation accelerates the pathogenesis of metabolic diseases

It has been shown that disruption of DPP4 prevents macrophage recruitment by adipose tissue. Infiltration of macrophages into adipose tissue is a cause of the inflammation that accelerates the development of a wide range of metabolic diseases. This suggests DPP4 inhibitors as promising candidates for both investigating metabolic disease, and potentially treating or preventing metabolic and related cardiovascular diseases.

Application area

Treatment of diseases caused by adipose tissue inflammation

Treatment for pre-diabetic patients to slow the progress toward type II diabetes

Treatment and prevention of obesity

Treatment and prevention of metabolic diseases and related cardiovascular diseases

Research tool for investigating adipose tissue inflammation in vivo

Research tool for investigating metabolic diseases

Advantages

Many DPP4 inhibitors are already FDA-approved

May prevent the development of more costly and complex metabolic disorders in at-risk patients

Institution

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