

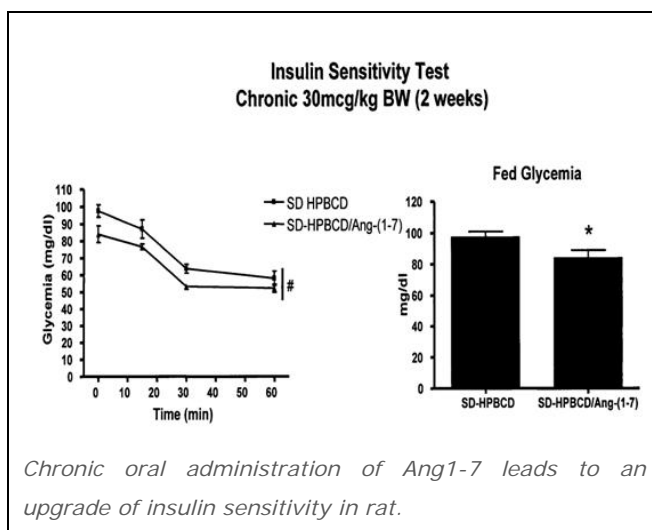
Use of MAS-G-Protein-coupled receptor agonists for the treatment of Metabolic Syndrome

Reference Number: TO 03-00248

Challenge

The metabolic syndrome, also known as insulin-resistance syndrome, is a variable combination of medical disorders in the fields of obesity, hyperinsulinemia, dislipidemia and hypertension that increases the risk of developing cardiovascular disease and diabetes. The syndrome affects about 25% of the adult population in USA and is generally treated with a multiple approach, including healthy diet, weight control, and high cholesterol, hypertension and diabetes treatments. Understanding molecular mechanisms involved in the disease development allows identifying new strategies and methods for its prevention and treatment.

Technology



The technology focuses on the use of MAS-G-Protein-coupled peptide or small molecule receptor agonists such as Angiotensin (1-7) peptides and its analogs for the prevention, treatment and modulation of metabolic syndrome. Angiotensin(1-7) has been previously reported to i.a. exert a protective action on the cardiovascular system, but it has never been directly associated with the metabolic syndrome.

MAS-G-Protein-coupled receptor knock-out mice show a marked alteration in lipid and glycemic metabolism. Further experimental evidence comes from rats treated with Angiotensin (1-7) showing a better insulin sensitivity, higher glucose tolerance, and a reduction of plasma lipid and adipose tissue mass when compared to mock treated rats, suggesting a primary role for MAS receptor agonists in the modulation of the disease.

Commercial Opportunity

The technology is offered for in-licensing and/or co-development as a prognostic or therapeutic tool.

Patent Situation

Patent applications pending in Europe (EP 07719268) and USA (US 12/298,351).

Further Reading

Mas deficiency in FVB/N mice produces marked changes in lipid and glycemic metabolism. Santos SH et al., Diabetes. 2008 Feb;57(2):340-7.

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