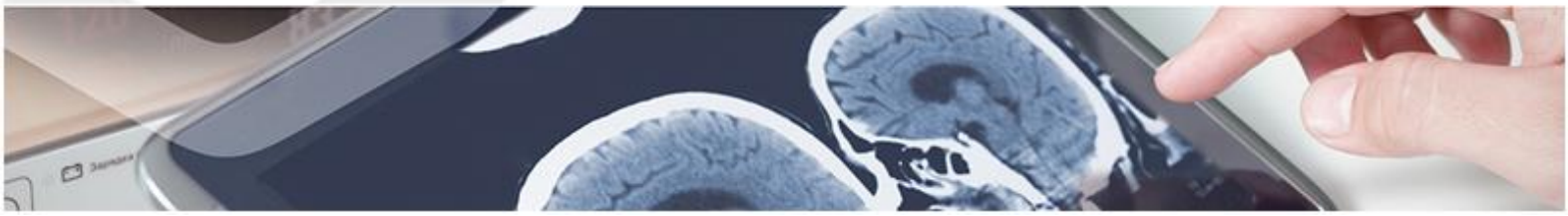
Therapies

New combinatorial therapy for the treatment of metabolic disorders

A Research Group from the Andalusian Public Health System (SSPA *as per its Spanish acronyms*) has discovered a new combined therapy for the treatment and/or prevention of obesity and dyslipidemia.

Oficina de TRANSFERENCIA DE TECNOLOGÍA
Sistema Sanitario Público de Andalucía



Description

The obesity is the main risk factor for cardiovascular diseases and Diabetes type 2 as well as it is related with the increase in mortality and morbidity. The increase of energetic consumption through the fat conversion (lipids) into heat, a process called thermogenesis, is an alternative for the weight loss which has some advantages in regards to the pharmacologic reduction of appetite or the fat destruction by chemical processes, which generates sub-products potentially harmful in significant doses. The pharmacologic induction of thermogenesis is achieved by the activation of the brown adipose tissue. The sympathetic nervous system plays an important role in both, the regulation of the energetic intake as well as in the energetic consumption and its stimulation by the Beta-1, 2 and 3 adrenergic receptor which lead to lipolysis and thermogenesis. More specifically, the Beta-3 adrenergic receptor is mainly located in the brown adipose tissue and it has been evidenced that its activation might prevent or revert the obesity in animals. The new therapy developed is based on a composition including, whether jointly or solely, two elements; one B-3 adrenergic receptor agonist, and a second element which might be a GLP-1 receptor agonist, a PPARα agonist, or a combination of both.

The Glucagon-Like Peptide-1(GLP-1) is a gastrointestinal peptide released by the intestine and the pancreas in response to the increase of certain nutrients in the plasma. Its action is produced on the Langerhans pancreatic islets with a triple effect: motility inhibition, appetite reduction and the stimulation of the glucose-dependent insulin release. The Peroxisome proliferator-activated receptors (PPARα) are considered as a superfamily belonging to nuclear hormones receptors and its function is based on the regulation of lipids and glucides metabolism. The research group has proven that the combination of an B-3 adrenergic agonist receptor GLP-1, a PPARα agonist or a combination of both, has a synergic effect in the reduction of the body weight. This effect is produced due to the appetite reduction, the increase of energetic consumption and the high fat mobilization.

Advantages

The combinatorial therapy avoids the undesired effects caused by the high dose of the agonist of the Beta-3 adrenergic receptor as well as it improves the results in the body fat mass reduction. Apart from its use as a medicine, the combinatorial therapy described might be used as cosmetic products intended for the obesity and cellulitis reduction.

Intellectual Property

This technology is protected by a patent.

Aims

The research group is aimed to enter a license agreement for exploitation and/or a collaboration agreement.

Classification

Area: Biotech-Pharma (Therapy)
Pathology: Metabolic & Endocrinology/ Endocrinology and Metabolic Diseases

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