

PRECISION MEDICINE FOR THE TREATMENT OF OBESITY

Description:

Obesity is a chronic disease that has had a great increase in prevalence in recent decades, today it is considered one of the most serious health problems in our society. There is a special need for improvement in this field due to the limitation of the pharmacological treatment of obesity since the efficacy is not sufficient, there is a risk of suffering adverse effects and weight regain once the treatment is suspended occurs normally. The proposed solution consists of a nanosystem composed of microRNAs and nanoparticles linked by surfactants that will be applied directly to white adipose tissue in order to convert white fat into beige fat. This process is called browning, which allows cells to change their role of storing energy into a thermogenic role of energy consumption. The nanosystem selectively promotes energy expenditure through the induction of browning in a channeled way because cells can be transformed in a targeted manner without touching other organs, thus enhancing its effect and minimizing its accumulation in other areas.

Keywords:

[Obesity](#), [Nanoparticles](#), [Microna](#), [Nanosystem](#), [Adipose Tissue](#)

Sectors:

[Health](#), [Biotechnology](#)

Areas:

[Health Sciences](#), [Therapeutics](#), [Biotechnology](#), [Quality of life](#), [New technologies](#)



Advantages:

The patented system constitutes a totally new, effective and targeted therapy against obesity, with low toxicity to the body. The nanosystem does not induce any harmful effects in the organs and there is no accumulation of the nanoparticles in the tissues. The surfactants used are known to be biodegradable. Preparations for use at the therapeutic level can be achieved in time and at reduced cost because nanoparticles are required in very small concentrations. In addition, a stability of the particles has been verified for at least 30 days.

Uses and Applications:

New technology in the field of endocrinology and related metabolic diseases. The patented system is positioned as a potential effective treatment for diseases related to obesity and insulin resistance and type 2 diabetes.

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Applicants: Universidad De Málaga, Junta De Andalucía. Consejería De Salud. Servicio Andaluz De Salud., Universidad De Sevilla, Ciber. Centro De Investigación Biomédica En Red

Inventors: Said Lhamyani , Adriana Mariel Gentile , Francisco Jose Tinahones Madueño, Rajaa El Bekay Rizky, Rosa María Giraldez Perez, Elia María Grueso Molina, M^a Pilar Pérez Tejeda

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