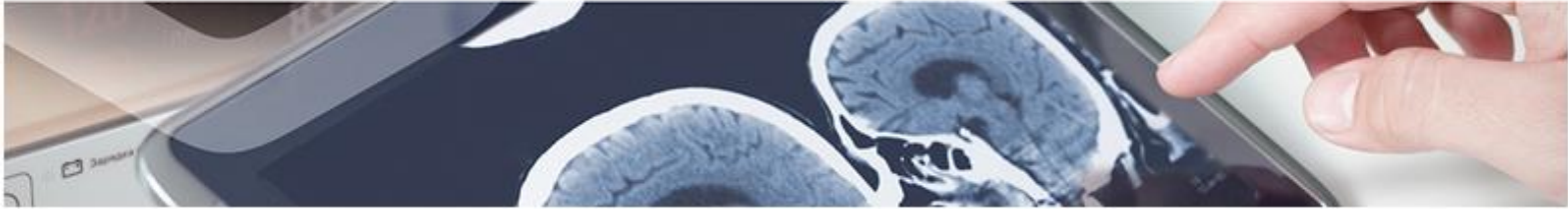




Therapy

Precision medicine for the treatment of obesity

A research group from the Andalusian Public Health System, in collaboration with the University of Malaga and the CIBER, have developed a nanosystem that would be applied to white adipose tissue, with the aim of converting white fat into beige fat.



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.

Currently there are only two drugs approved by the Ministry of Health, Consumption and Social Welfare for the treatment of obesity and other related diseases. Likewise, there is also 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 occurs normally once the treatment is suspended.

The solution proposed by the research group is to develop a nanosystem composed of microRNA and nanoparticles linked by means of surfactants that will be applied directly to white adipose tissue with the aim of converting white fat into beige fat. This process is called browning, which allows cells to change from their energy storage role to a thermogenic energy consuming role.

The nanosystem selectively promotes energy expenditure by inducing browning in a channelled manner, since cells can be transformed in a directed manner without touching other organs, thus enhancing its effect, and minimizing its accumulation in other areas.

For this reason, it is a potential effective treatment for diseases related to obesity and insulin resistance and type 2 diabetes.

Advantages

- It constitutes a **totally new, effective and directed therapy against obesity**, with low toxicity for the body. (both free consumption and occasional falls), **as well as liver fat deposits** (protection of the body itself against alcohol damage).
- The **nanosystem does not induce any harmful effect** on 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 a therapeutic level can be obtained at a reduced time and cost because **nanoparticles are required in very small concentrations**.
- There is **stability** of the particles for at **least 30 days**.



IP

- Priority patent application P201930118
- International patent applications: EP20755751.3, US17/599,463



Objetives

Industrial partners from biotech pharmaceutical industry are being sought to collaborate through a patent licence or co-development agreement.



Keywords

Technological area: Biotech-Pharma.

Pathology: Metabolic diseases, Obesity, Endocrinology.



http://www.ibima.eu/grupo_investigacion/endocrinologia-celular-y-molecular/

<https://www.youtube.com/watch?v=rzAjNrw92I0&t=1s>