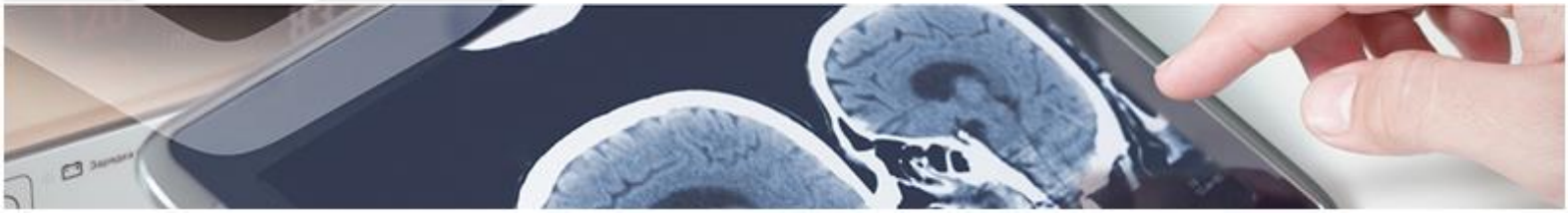
Treatment

Precision medicine for obesity treatment.

A research group from the Andalusian Public Health System in collaboration with the University of Málaga (UMA) and CIBER has developed a new nanosystem to be applied over white adipose tissue. This nanosystem changes white fat into brown fat.

Oficina de TRANSFERENCIA DE TECNOLOGÍA
Sistema Sanitario Público de Andalucía



Description

The obesity is a chronic disease. Obesity prevalence has risen significantly last years. Nowadays, it is one of the largest health issues in our society.

Currently, there are only two drugs for obesity treatment and other related diseases approved by Ministry of Health, Consumer Affairs and Social Welfare. Because of the lack of drugs and the high prevalence of obesity, new options of treatment must be developed. Treatments must be effective and secure, avoiding adverse effects on the patience and avoiding the weight gain once the treatment is stopped.

The treatment developed by this group is based on a nanosystem made of nanoparticles and a microRNA linked by surfactants. This nanosystem must be applied over white adipose tissue, in order to change white fat into brown fat (this process is called *browning*). Thanks to *browning* process, adipose tissue change it function, from energy storage (white fat) into thermogenic consume (brown fat).

The nanosystem promote the energy consume thanks to *browning* induction. The microRNA transforms adipose tissue without affect other organs and avoiding white fat accumulation in other areas.

These reasons make this new developed an effective treatment for obesity and other diseases related with insulin resistance and type 2 diabetes.

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

Advantanges

- It is a new and effective treatment, **targeted into obesity**, with a low toxicity.
- It can be **targeted into hepatic fat** produced by alcohol consumption.
- The treatment does not affect organs and there is not nanoparticles accumulation in tissues.
- Surfactants are biodegradable.
- A little nanoparticle concentration is needed. They can be obtained in small time and with a low cost.
- Nanoparticles are stable for almost 30 days.

Intellectual Property

This technology is protected by national and international (PCT) patent application with possibility of national extension.

Aims

The research group is looking for partnership and/or license agreement.

Classification

Area: Biotech-Pharma. Biologic.

Pathology: Endocrine and metabolic disease.

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