LIPID-BASED NANOPARTICLES FOR GENE THERAPY AND OPHTHALMOLOGY

Prevention, improvement and treatment gene diseases and ocular diseases through gene therapy with lipid-based nanoparticles

TYPE OF DEVELOPMENT

Lipid-based delivery systems

DESCRIPTION

The technology relates to a lipid nanoparticle system useful for the release of pharmacologically active molecules, and especially for delivering genetic material into cells and/or tissues, as well as methods for obtaining it and pharmaceutical compositions comprising it.
The technology is useful for preparing agents for transferring genetic material into cells and/or tissues in vitro or in vivo for:

•Production of proteins for the fabrication of medicaments or other products (vaccines).
•"Ex vivo" gene therapy.
•Fabrication of medicaments for "in vivo" gene therapy.

INDICATION

- Ocular diseases, including retinal and corneal diseases.
- Infectious diseases, including HIV and metabolic diseases.
- Autosomal recessive diseases

NOVELTY/ADVANTAGES

This system offers a stable, biocompatible, and non-toxic delivery platform for nucleic acids, ensuring efficient protection and controlled release. Its small size, high surface area, customizable properties, and low immunogenicity make it ideal for gene therapy efficacy and safety, with potential for controlled, sustained release and reduced side effects, particularly for treating localized diseases.

STAGE DEVELOPMENT

In vivo proof of concepts demonstrating the high potential of the nanoparticles system.

Ref: Liposomes&Ophtal-Liposomes&Nanoplatform liposomes

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IPR STATUS

Patent filling:

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Family 3:
EP11851122 (Granted)
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COOPERATION GOAL

Company interested in the license and sponsored reserarch