Reference: Lágrima (18BIO06)

PoC MEDICAL DEVICES FOR DIAGNOSIS AND MONITORING BASED ON QUANTIFICATION OF BIOMARKERS IN TEAR FLUID

The innovation is based on the use of teardrop markers for the diagnosis of ocular pathologies.

TYPE OF DEVELOPMENT

Methodology and diagnosis kit.

DESCRIPTION

This technology relates to a method for extracting lipids from the tear based on the use of isopropanol and with a method to detect differences in the lipidomic profile between two different samples, as well as with a kit for extracting lipids from the tear.

INDICATION

Diagnosis of all those ocular diseases in which there is an alteration in the profile of blood lipids.

NOVELTY/ADVANTAGE

Simplifies procedures of extraction known in the art, exhibits greater reproducibility than the methods known.

In particular, in comparison With the Bligh and Dyer method, the technology offers the following advantages:

- The reduction of contamination by extracting the aqueous phase with the proteins since the lipid phase is in the upper phase while in the Bligh and Dyer method the organic phase is in the lower part.
- The direct use of aqueous phase in chromatography without the need for a drying step, which is necessary in the Bligh and Dyer method on which the chlorinated solvents used in this method can interfere with the separation 20 chromatographic analysis of lipids.
- Reduces the loss of lipids associated with the precipitation that is carried out in the Bligh and Dyer method in the presence of methanol and acetonitrile.
- Reduces the cost of extraction since isopropanol is cheaper than solvents employees in the Bligh and Dyer method and the time required is shorter.
- Safety of the procedure since isopropanol is a relatively safe solvent 25 compared to the solvents used in the Bligh and Dyer method.
- Higher repeatability and higher recovery rate of two lipid families, in particular, the phosphatidylglycerols and the phosphatidylinositols (mentioned as PG and PI respectively).

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COOPERATION GOAL

- Sponsored research.
- Licensing-out.