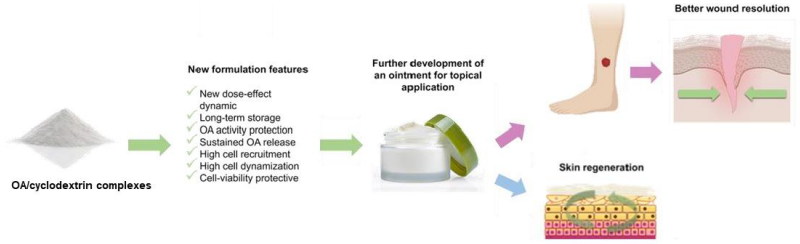
Technology offer IP-039

A new formulation to enhance the applicability and bioavailability of oleanolic acid

A new pharmaceutical formulation based on oleanolic acid/cyclodextrin complexes has been developed by researchers from IMIB to improve the solubility and bioavailability of oleanolic acid. This system acts by improving delivery and biological activity in skin cells. It offers a promising therapeutic option for the prevention and treatment of acute and chronic wounds, as well as other dermatological conditions such as eczema, psoriasis or acne.



Market needs

Many patients with acute or chronic wounds lack effective treatments that promote healing without adverse effects. Oleanolic acid (OA), a natural compound with anti-inflammatory, antimicrobial, and antioxidant properties, supports tissue regeneration but faces clinical limitations due to its low aqueous solubility. Current delivery methods using DMSO are cytotoxic. There is a clear need for safer, more effective delivery systems to harness the therapeutic potential of oleanolic acid for treating wounds and dermatological conditions such as psoriasis and acne.

Technical solution from IMIB

The technology is based on a novel delivery system that enhances the solubility and bioavailability of Oleanolic acid. The formulation uses chemically modified cyclodextrins to encapsulate oleanolic acid, improving its incorporation into cell culture media and topical applications. *In vitro* assays demonstrated enhanced cell migration and viability compared to the conventional DMSO-solubilized form. This formulation shows strong potential for dermatological use.

Benefits

- Increase in the biological activity and effectiveness of oleanolic acid compared to conventional systems.
- The chemically modified cyclodextrin complex improves water solubility and ensures controlled release, enhancing bioavailability and reducing cytotoxicity.
- The sterile formulation is versatile and suitable for topical use, with potential for broader dermatological applications.
- The use of natural, biocompatible ingredients may lower regulatory barriers and manufacturing costs, offering economic and clinical advantages.

State of development

TRL-4 Laboratory validation

Objective of the collaboration

License and/or co-development

Industrial Property

European patent application

Priority date: 13/09/2023

Contact

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