



DIABETES – WOUND HEALING

A novel treatment for diabetic ulcers

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Protection	IT 102022000000884 IT 102022000002618
Priority	20/01/2022

TRL scale



What it is needed for?

Diabetic chronic ulcers, a common complication of diabetes, are significant cause of morbidity and mortality in the Western world. Despite the considerable medical need, currently **no specific and efficacious treatment for diabetic -and other chronic- ulcers exist**. This is in part due to the complexity of the condition and incompletely understood mechanisms underlying delayed wound healing.

We have found that increased expression of a protease inhibitor **SerpinB3 is associated with faster healing** of ulcers in diabetic patients and showed that topical administration of exogenous SerpinB3 facilitates wound healing in mice.

To this end, we developed a novel semisolid formulation suitable for topical administration of protein-based bioactive agents. The carrier allows to overcome problems related to the intrinsic instability or proteins in aqueous environment and permits their sustained release for more than 3 days. Topical administration of SerpinB3 was effective in promoting chronic wound healing only if administered in this slow releasing formulation.

Advantages

- A specific treatment for non-healing ulcers.
- A novel delivery system for protein based active agents, that:
 - Is suitable for topical administration;
 - Guarantees slow release (> 3 days) of the active protein;
 - Preserves protein stability upon storage.

Applications

- Topical treatment for diabetic ulcers;
- Topical treatment for chronic ulcers;
- Topical delivery system for protein or peptide active ingredients.

What we are looking for

The technology is available for licensing and/or co-development