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Ultrasound Targeting of Q-starch/miR-197 Complexes for Topical Treatment of Psoriasis

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Abstract

Psoriasis is a common, worldwide autoinflammatory, incurable skin disease. MiR-197 has therapeutic potential for psoriasis since it can down-regulate the expression of both IL-22RA1 and IL-17RA, subunits of the receptors of IL-22 and IL-17, respectively, which are key cytokines in the disease. Although miR-197 has the potential to treat the disease, several inherent physical barrier properties of the skin challenge miRNA's delivery to the target skin cells. In the present study, we evaluated a therapeutic approach that combines the use of ultrasound (US) as a means to enhance skin permeability with quaternized starch (Q-starch) as an miRNA delivery carrier. This resulted in decreased

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