Particle-mediated transport of dissolved active agents into hair follicles

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SUMMARY

The skin is a stable barrier making uptake of topically applied substances difficult. Hair follicles (HF) are an interesting target site for the delivery of topically applied substances due to the weaker follicular barrier. However, non-particulate substances, including dissolved active ingredients, practically do not penetrate the HF, have very limited bioavailability or even fail to pass the skin barrier at all.
The team has developed a method for improved particle-mediated transport of dissolved active agents into HF. In the scope of this project, the aim is to determine the best conditions ex vivo for optimal drug HF penetration and show proof-of-concept drug delivery as well as a first validation in vivo.
If successful, this new way of enhanced drug delivery is broadly applicable and we aim to investigate its use for further drugs and indications.

PROJECT GOALS

- Determine the conditions ex vivo for optimal drug hair follicle penetration
- Proof-of-concept drug delivery
- Validation in animal model

LONG-TERM GOALS

- Licensing to industry
- Broaden application to other drugs/indications