The human hair follicle is colonized by unique and complex microbiota and serves as a microbial habitat, providing a maximal surface area for microbe-host interactions regulating scalp health. Hair follicle microbiome dysbiosis is involved in hair follicle disorders, such as acne vulgaris, alopecia areata, androgenic alopecia, and dandruff. Therefore, targeting the hair follicle microbiome leads to the development of novel cosmetic strategy to manage hair disorders and maintaining scalp health (Lousada et al., 2021 Br J Dermatol).

**Claim substantiation:**
- Healthy skin with a balanced microbiome
- anti-dandruff
- anti-acne

**Case study: Compound X restores a healthy microbiome in the hair follicle**

1. **Compound X stimulates the production of DCD in the hair follicle**
   Healthy HF’s manage and efficiently control their microbiome by production of antimicrobial peptides (AMPs) with different microbial specificities, and which are inducible by bacterial products/metabolites. We analyze how manipulation of the microbiome changes AMP expression and how treatment with selected compounds may help in boosting certain antimicrobial peptides.

2. **Compound X prevents hair follicle contamination by bacteria and fungi**
   We analyze how treatment with cosmetic compounds changes the hair follicle microbiome and whether this treatment could be a suitable adjunct therapy in hair disorders characterized by dysbiosis, in order to have a more equilibrated microbiome.

**Selection of our publications on the method:**
Edelkamp et al., Methods Mol Biol 2020; Langan et al., Exp dermatol 2015

Contact us for a customized study:
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**Founder & CEO:**
**Prof. Dr. Ralf Paus**

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**Reasons why you should choose Monasterium Laboratory:**
- Cutting edge methodologies and techniques
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- Clinical trials carried out with strategic partners for healthy skin and hair benefits
- Comprehensive project reports & manuscript drafting and submission