

Dr. Cécile Clavaud, Research Engineer, Open Research L'Oréal
Keeping scalp microbiota in check

1. Is there a hair microbiome?

In fact, dealing with hair, we have to consider different parts: the hair root, which is the deeper part of the hair in the skin; the hair follicle which is an appendage with lower levels of oxygen and almost systematically comprises an annexed sebaceous gland; and the hair length and tip. The 3 parts represent different ecosystems, which are expected to be colonized by different microbiota.

There are few reports regarding the hair microbiome. I can suggest two reports on this topic.

- For hair follicle: First evidence of bacterial biofilms in the anaerobe part of scalp hair follicles: a pilot comparative study in folliculitis decalvans (<http://onlinelibrary.wiley.com/doi/10.1111/j.1468-3083.2012.04591.x/full>)
- For hair length: Metagenomic analyses of bacteria on human hairs: a qualitative assessment for applications in forensic science (<https://investigativegenetics.biomedcentral.com/articles/10.1186/s13323-014-0016-5>)

2. Apart from anti-fungal agents which target Malazessia, what is the approach to address the imbalance of all species on the scalp?

Our findings from these past years suggest that relying solely on antifungal agents for treating dandruff could be not optimum. Indeed, reducing the individual susceptibility to develop dandruff by controlling microbial species equilibrium and / or reinforcing skin barrier function could be the pillars of a new holistic treatment to get better long-lasting effects.