

The Skin MICROBIOME

The skin is the largest organ in our body and is our first line of defence against the outside world

Our skin bacteria can produce bacteriocins which are **small proteins that are like natural antibiotics** and kill bad bacteria. The human skin microbiome is home to trillions of good bacteria- like a defence force guarding & protecting us from infection & disease.

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We can harvest natural alternatives to antibiotics for example bacteriocins, to mitigate the threat posed by antimicrobial resistance

Your gut microbiota begins to develop the moment you are born when you are coated by your mothers microbes. The microbes you are coated with varies whether you are born via the birth canal or via Csection



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Research surrounding the skin microbiome is ~10years behind the gut microbiome- but is rapidly accelerating into a massive field of research.

Using DNA profiling, the human skin microbiome has been characterised for different areas of our bodies, which offer different survival and growth pressures for microbes, including different pH, oily or dry, or even slight variations in temperature. These different environments provide a huge diversity of bacteria on our skin.

Skin screening study

Research surrounding the skin microbiome is relatively new within the APC- so in keeping with the research theme a screening study of the skin of 20 healthy adults from ages 18-65 years was conducted with the hope of discovering novel bacteriocins that could target skin pathogens like MRSA, *Staph, epidermidis* & *Cutibacterium acnes*





BAMBI- Longitudinal BAby skin MIcroBlota study

- To identify the development of skin microbiota of healthy full-term infants (>35 weeks gestation) over the first year of life and investigate if mode of birth influences its development.
- Explore the relationship between gut, skin, and oral microbiomes of infants during the first year of life.
- Study if there are beneficial cultures that could be characterized for future probiotics in infants with skin infections.

Interfacing Food & Medicine

APC Microlisems Instant, Biotoances Building, University College Cont, Instant 7127729 ± +353 21 490 1430 e apollous in acomicrobiomesia

