Understanding the molecular basis of fingerprint formation

Initiative: "Experiment!" (beendet)

Ausschreibung: Explorative Phase

Bewilligung: 18.12.2019

Laufzeit: 1 Jahre 6 Monate

Projekt-Website: https://www.uni-marburg.de/en/fb20/departments/zti/imt/research/mermoud-lab

The skin of our hands and feet is specialized, containing ridges, called dermatoglyphs, important for tactile sensitivity. Ridges at the tips of our fingers are categorized as arches, loops and whorls that are unique to each individual, even identical twins have different patterns. Although fingerprint based personal identification dominates modern lives and absence of dermatoglyphs is associated with diseases, the mechanisms that regulate their formation are unknown. The role of epigenetic regulation of gene expression in differentiation and development is widely appreciated, yet little is known about the epigenetic contribution to shaping fingerprints, which is the focus of this proposal. Using approaches from cell biology, biochemistry and a genetics as well as 3D-organotypic cultures, the proposed research will elucidate the molecular basis that underpins the establishment of fingerprints. The outcomes will have relevance for cell and developmental biology and inform theories of fingerprint formation, pertinent to forensic science and personal identification methodologies.

Projektbeteiligte

Dr. Jacqueline Mermoud
Universität Marburg
Medizinische Fakultät
Institut für Molekularbiologie und Tumorforschung
Marburg