

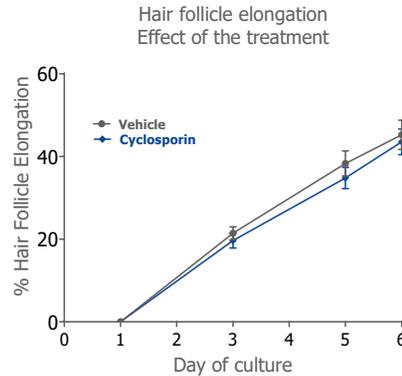
Investigating the effect of a test compound on hair growth and anagen-catagen conversion

Case study: Cyclosporin maintains hair follicles longer in anagen *ex vivo*

1. Cyclosporin maintains the normal rate of hair elongation (hair shaft production)

Our method:
Human healthy microdissected amputated hair follicle *ex vivo* organ culture

Cyclosporin: is an immunosuppressant drug which induces unwanted hair growth as side effect *in vivo* and prolongs anagen *ex vivo* (Hawkshaw et al., PLoS Biol 2018)



Pooled data from 3 independent experiments, Mean±SEM, n=21-22 HF's analysed/group from 3 donors

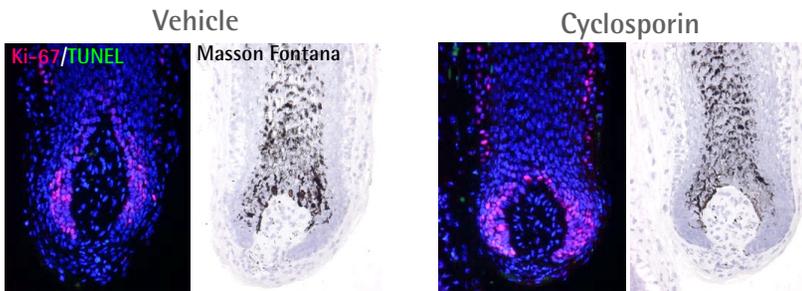


Amputated microdissected hair follicle at day 0, after isolation



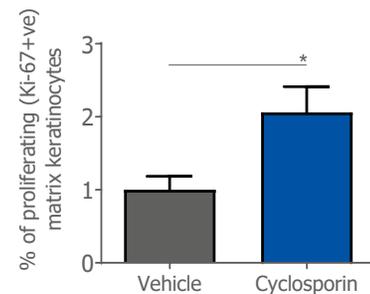
Amputated microdissected hair follicle at day 6 of organ culture: Note the newly formed hair shaft and outer root sheath

2. Cyclosporin significantly increases cell proliferation in the hair follicle matrix



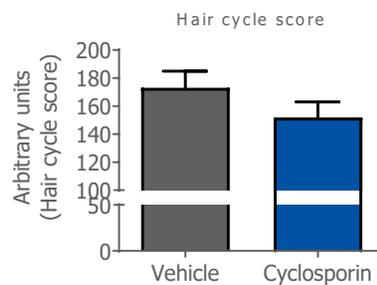
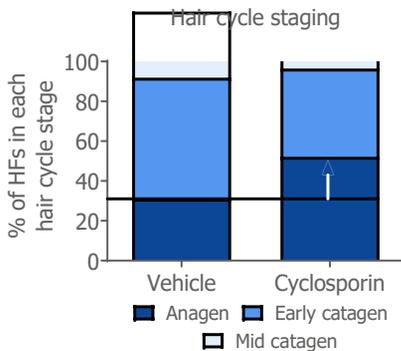
Ki-67: marker for proliferation. TUNEL: marker for apoptosis. Masson Fontana: histochemical staining revealing melanin content

% of proliferative hair matrix keratinocytes



Pooled data from 3 independent experiments. Mean±SEM n=26-28HF's analysed/group from 3 donors. *p<0.05.

3. Cyclosporin maintains hair follicles longer in anagen



Pooled data from 3 independent experiments. Mean or Mean±SEM n=26-28HF's analysed/group from 3 different donors.

Selections of our publications on the method: Langan et al., Exp Dermatol 2015; Kloepper et al., Exp. Dermatol 2010

Selections of our publications on the topic: Chéret et al., Nat Commun 2018; Alam et al., Br J Dermatol 2018; Parodi et al, PLoS Biol. 2018

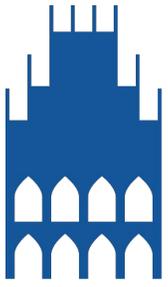
Read-outs: Hair Follicle Growth, Hair Shaft Production, Anagen (Growth Phase) Maintenance, Catagen (Regression Phase) induction, Proliferation and Apoptosis of Hair Matrix Keratinocytes, etc.

Contact us for a customized study:

CEO:
Dr. Marta Bertolini (PhD)
CSO:
Dr. Janin Edelkamp (PhD)

m.bertolini@monasteriumlab.com
j.edelkamp@monasteriumlab.com
+ 49 (0)251 93263-080

For more details see also our webpage:
www.monasteriumlab.com

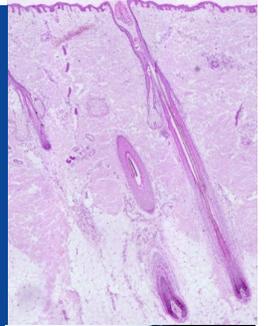


MONASTERIUM LABORATORY

A **Q I M A** Life Sciences Company

All about
skin and hair
bioscience!

State-of-the-art technology and expertise
for all your pre-clinical, mechanistic, and
clinical needs in dermatology research.



- ▶ Pre-clinical Research
- ▶ Clinical Research
- ▶ Education



"We combine
our unique expertise,
our project design creativity,
and our passion to advance
our clients' success in
delivering novel and game-
changing skin and hair
research solutions"

President:
Prof. Dr. Ralf Paus

Your one-stop
source for all *in vitro*,
ex vivo and *in vivo*
testing plus additional
services.

Reasons why you should choose Monasterium Laboratory:

- Cutting edge methodologies and techniques
- Tailor-made & customized assays for all needs
- A focus on novel targets and therapeutics for skin & hair disorders: identify-characterize-validate
- Delivering mechanistic action stories, biomarkers & predictors of response
- Claims support for cosmetic ingredients in skin or hair follicle models
- Clinical trials carried out with strategic partners for healthy skin and hair benefits
- Comprehensive project reports & manuscript drafting and submission

Monasterium Laboratory

Skin & Hair Research Solutions GmbH
Mendelstr. 17, 48149 Münster, Germany

www.monasteriumlab.com

For enquiries, please contact:

CEO:
Dr. Marta Bertolini (PhD)
m.bertolini@monasteriumlab.com
+ 49 (0)251 93263-080