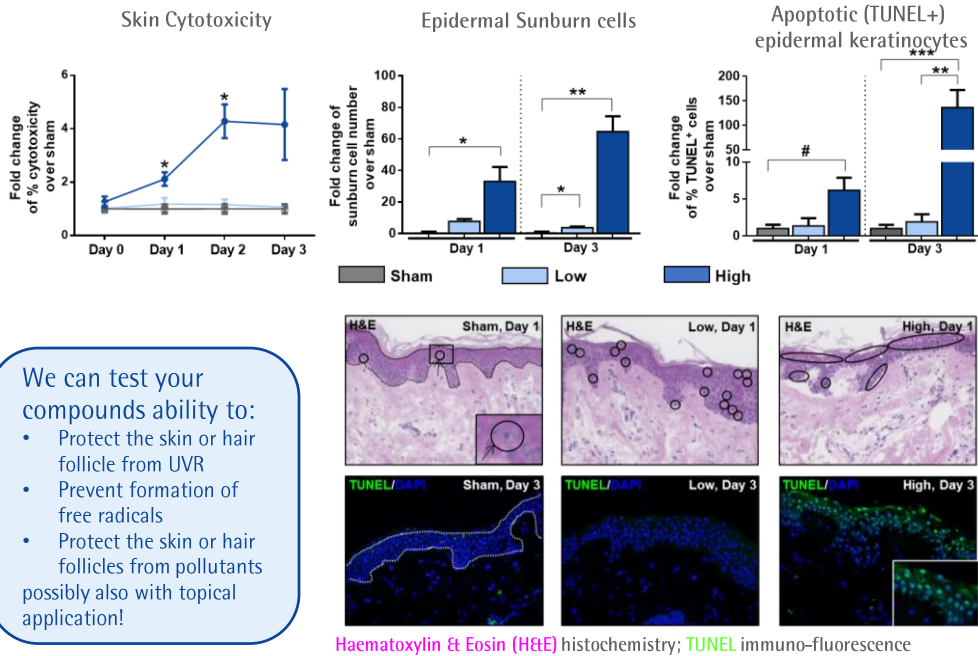


# Investigating the effect of UV irradiation on skin

## Study example: UVR exerts skin cytotoxicity and epidermal damage *ex vivo*



low = 10J/cm<sup>2</sup> UVA+  
20mJ/cm<sup>2</sup> UVB  
high = 50J/cm<sup>2</sup> UVA +  
50mJ/cm<sup>2</sup> UVB  
(solar UV spectrum)

Our method:  
Human full-thickness skin *ex vivo* organ culture

Stressors available: UVR, pollution, hydrogen peroxide,...

Read-outs: viability, proliferation and apoptosis, necroptosis, DNA damage, sunburn cells...

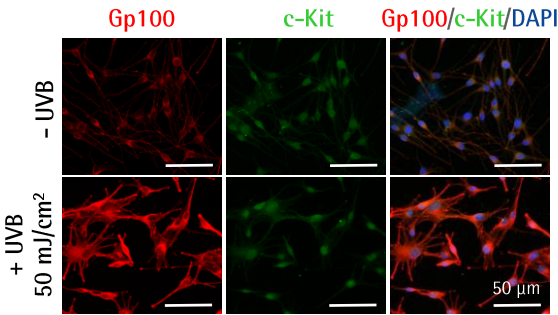
We can test your compounds ability to:

- Protect the skin or hair follicle from UVR
- Prevent formation of free radicals
- Protect the skin or hair follicles from pollutants possibly also with topical application!

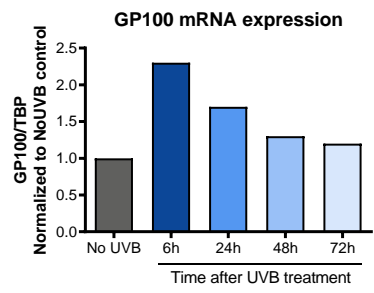
Selection of our publications on the topic:  
Gherardini et al., Int J Cosm Sci 2019; Poeggeler et al., Exp Dermatol 2010; Lu et al., J Invest Dermatol. 2009; Bodo et al., Am J Pathol 2007

## Study example: UVR stimulates melanogenesis *in vitro*

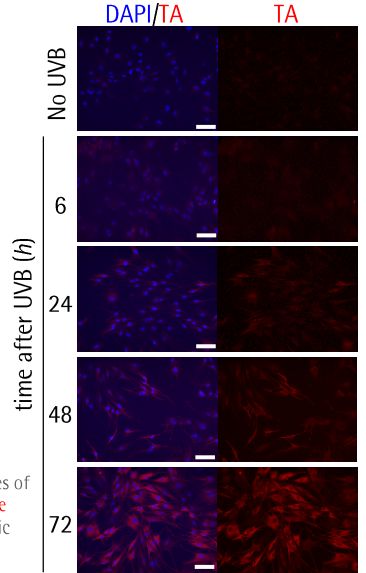
UVB treatment of melanocytes increased the expression of the melanogenesis associated marker GP100 and the level of tyrosinase



Representative images of Gp100 and c-Kit immunofluorescence in melanocytes without or 6 h after UVB treatment.

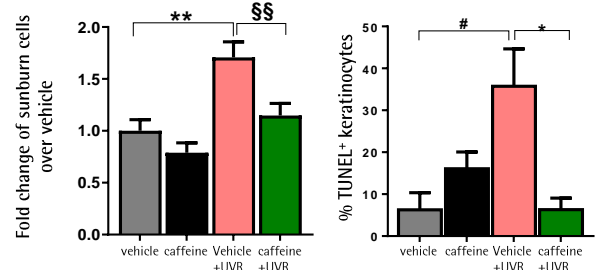


GP100 mRNA relative expression in the NHEMs was measured at different timepoints after UVB irradiation, housekeeping gene: TBP.



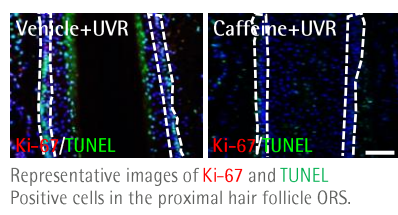
Representative images of the level of tyrosinase detected by enzymatic activity assay.

## Study example: Caffeine protects cells from UV damage *ex vivo*



Number of sunburn cells in the epidermis of vehicle or caffeine treated skin. Pooled data from 2 donors, mean±SEM, \*\*p<0.01, \*\*§p<0.01.

Number of TUNEL+ keratinocytes in distal ORS of vehicle or caffeine treated HF. Pooled data from 2 donors, mean±SEM, \*p<0.05, #p<0.05.



Representative images of Ki-67 and TUNEL Positive cells in the proximal hair follicle ORS.

**Contact us for a customized study:**

Acting 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](http://www.monasteriumlab.com)

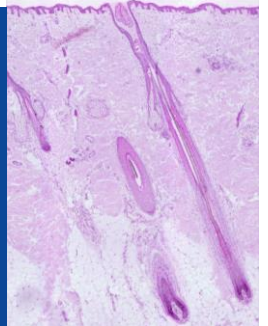


# MONASTERIUM LABORATORY

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"

Founder & CEO:  
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](http://www.monasteriumlab.com)

For enquiries, please contact:

Acting CEO:

Dr. Marta Bertolini (PhD)

[m.bertolini@monasteriumlab.com](mailto:m.bertolini@monasteriumlab.com)

+ 49 (0)251 93263-080