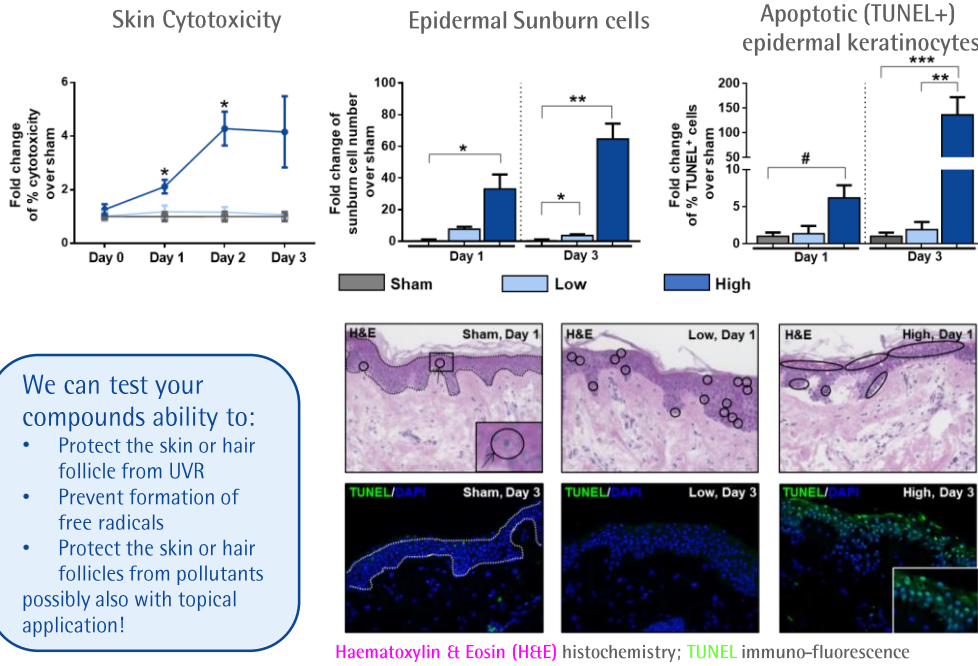


# Investigating the effect of UV irradiation on skin

## 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

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

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

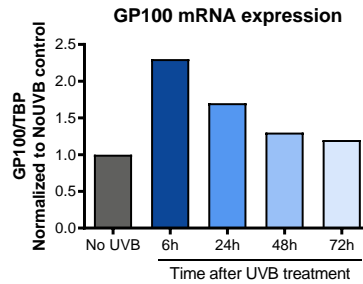
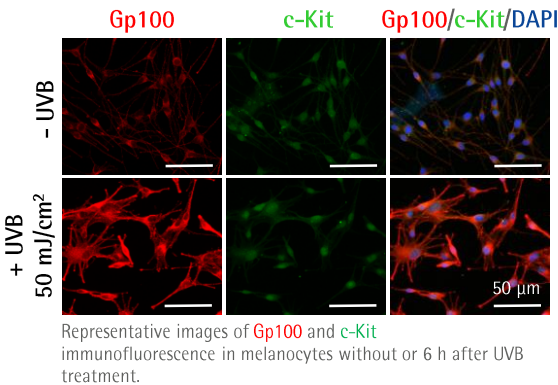
Selection of our publications on the topic:  
Gherardini et al., Int J Cosm Sci 2019; Poeggeler et al., Exp Dermatol 2010; Lu et al., J Invest Dermatol. 2009; Bodo et al., Am J Pathol 2007

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!

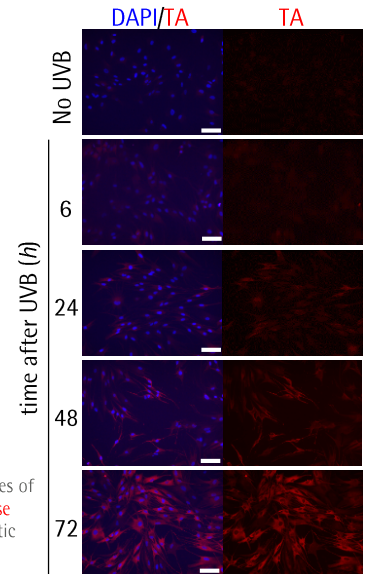
## Study example: UVR stimulates melanogenesis *in vitro*

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

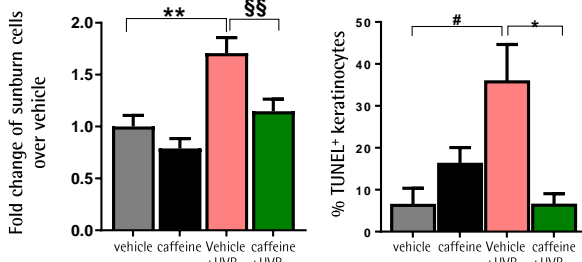


GP100 mRNA relative expression in the NHEMs was measured at different timepoints after UVB irradiation, housekeeping gene: TBP.

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

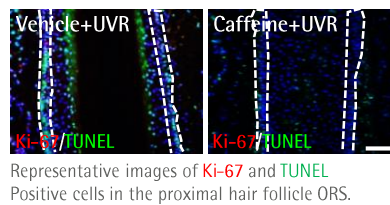


## Study example: Caffeine protects cells from UV damage *ex vivo*



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.



Contact us for a customized study:

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www.monasteriumlab.com

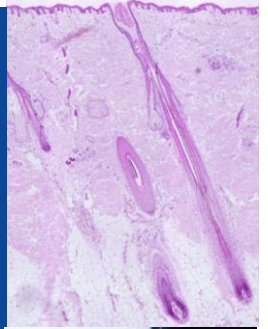


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