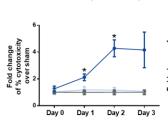
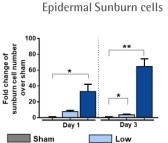
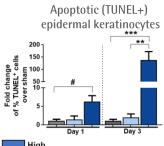
# Investigating the effect of UV irradiation on skin

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



Skin Cytotoxicity





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

Our method: Human fullthickness skin ex vivo organ culture

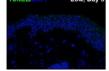
Low, Day 1 We can test your pollution, compounds ability to: hydrogen Protect the skin or hair peroxide,.. follicle from UVR

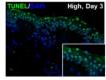
Stressors available: UVR,

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

free radicals Protect the skin or hair follicles from pollutants possibly also with topical application!

Prevent formation of



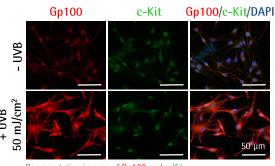


Haematoxylin & Eosin (H&E) histochemistry; TUNEL immuno-fluorescence

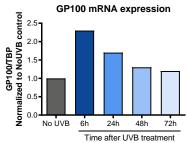
Selection of our publications on the topic: Gherardini et al., Int J Cosm Sci 2019; Poeggeler et al., Exp Dermatol 2010; Lu et al., J Invest Dermatol. 2009; Bodo et al., Am J Pathol 2007

### 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

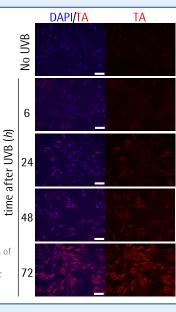


Representative images of Gp100 and c-Kit immunofluorescence in melanocytes without or 6 h after UVB

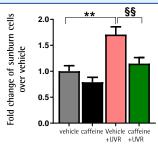


GP100 mRNA relative expression in the NHEMs was measured at different timepoints after UVB irradiation, housekeeping gene: TBP.

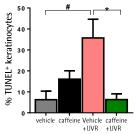
Representative images of the level of tyrosinase detected by enzymatic activity assay.



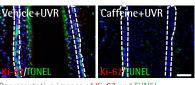
### Study example: Caffeine protects cells from UV damage ex vivo



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



Number of TUNEL+ keratinocytes in distal ORS of vehicle or caffeine treated HFs. 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:

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#### For enquiries, please contact:

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