

Investigating protective effects of a compound on epidermal or hair follicle stem cells

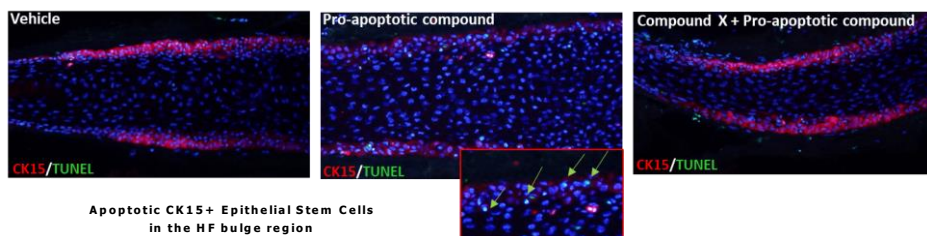
Study example: Compound X protects hair follicle stem cells from experimentally induced cell death

1. Compound X protects stem cells from apoptosis

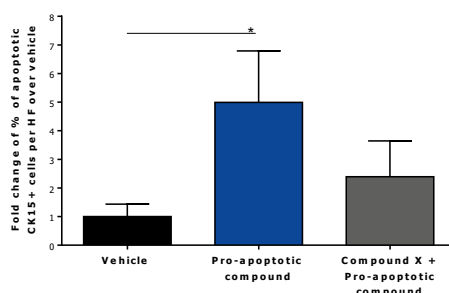
Our **method**:
Human healthy
microdissected **full-length hair follicle** *ex vivo* organ culture

Readout
parameters
available also
for epidermal
stem cells

Compound X:
Stem cell protective
compound



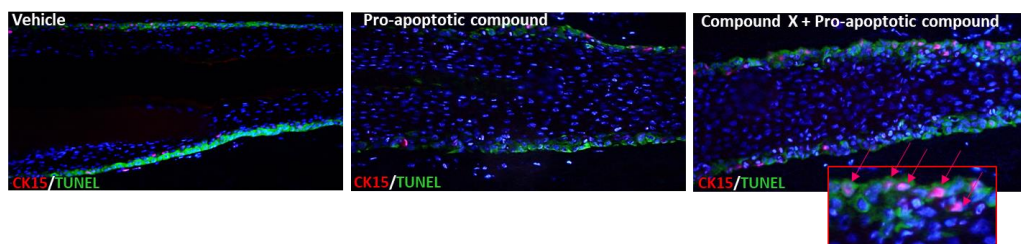
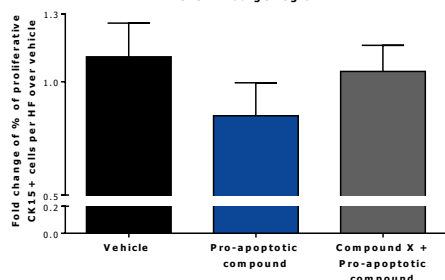
Apoptotic CK15+ Epithelial Stem Cells
in the HF bulge region



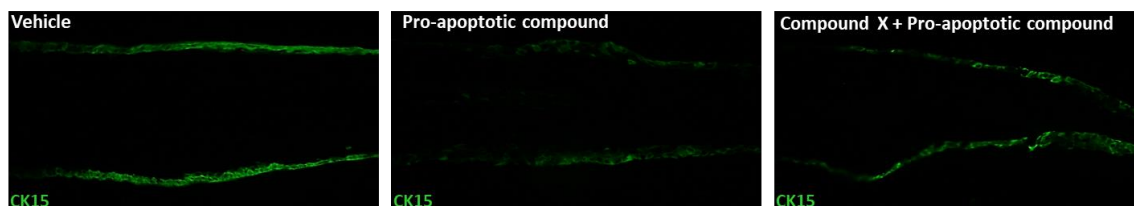
CK15**TUNEL** immunofluorescence shows the proliferating stem cells in the hair follicle bulge (stem cell niche)

2. Compound X maintains stem cell proliferation under pro-apoptotic treatment

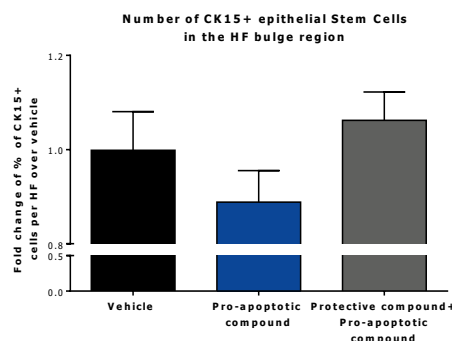
Proliferative CK15+ epithelial Stem Cells
in the HF bulge region



3. Compound X protects the stem cell pool in the hair follicle



CK15 immunofluorescence shows the number of stem cells in the hair follicle bulge (stem cell niche)



Read outs:

- Number of stem cells
- Stem cell proliferation and apoptosis
- Stemness associated keratins
- Stem cell senescence and aging
- Epithelial-mesenchymal transition
- And more...

Selection of our publications on the topic:

Imanishi et al., J Invest Dermatol 2018; Purba et al., Sci Rep 2017; Ali et al., Cell 2017; Ramot et al., Arch Dermatol Res 2015; Purba et al., Bioessays 2014; Ernst et al., PLoS One 2013

Contact us for a customized study:

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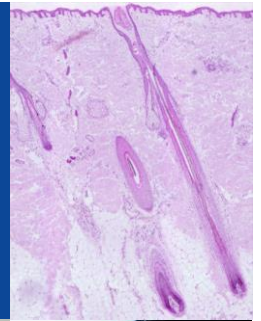


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