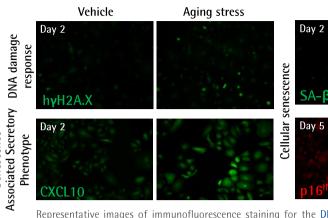
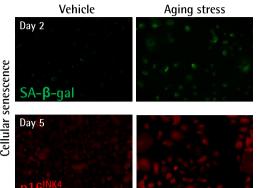
# Investigating induced skin aging and senescence

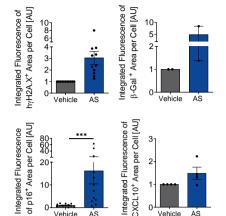
Study example: DNA damage response and cellular senescence markers are upregulated in response to aging inducing stress in primary epidermal keratinocytes (NHEK) in vitro

Our method: In vitro cell culture of primary epidermal keratinocytes



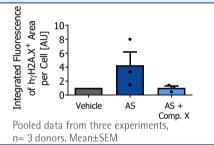


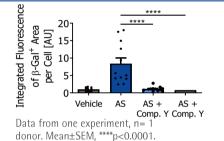




Pooled data from n= 2-12 experiments from 1-5 donors. Mean±SEM, \*\*\*p<0.001.

### Study example: Compounds X and Y rescue from aging and senescence phenotype in vitro

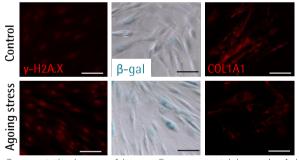


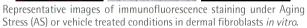


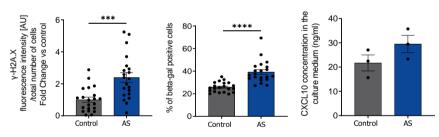
Possible aging stress inducers: UV, H<sub>2</sub>O<sub>2</sub>, DNA intercalating agents, ...

#### **Read-out parameters:** energy metabolism, mitochondrial biogenesis, oxidative stress, senescence, collagen fiber composition and structure, ...

### Study example: Induction of senescence in response to aging stress in dermal fibroblasts in vitro



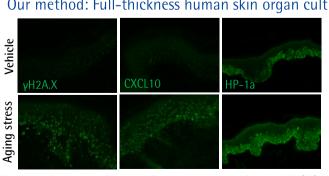


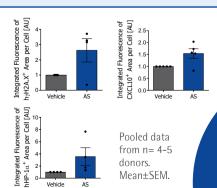


Pooled data from n= 3 experiments. Mean±SEM, \*\*\*p<0.001, \*\*\*\*p<0.0001.

Study example: DNA damage response and cellular senescence markers are upregulated in response to aging inducing stress in human skin ex vivo

#### Our method: Full-thickness human skin organ culture





Representative images of immuno-fluorescence staining for hyH2A.X, CXCL10 and HP-1a, a marker for senescence-associated heterochromatin changes under Aging Stress (AS) or vehicle treated conditions in full-thickness human skin ex vivo.

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Our publication on the topic: Keren et al., Sci Adv 2022

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