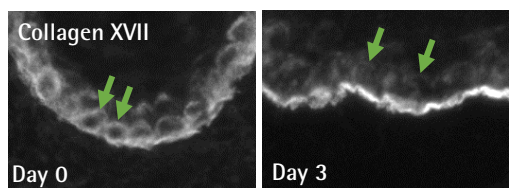


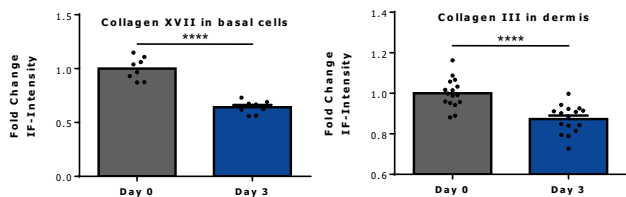
# Investigating the effect of a test compound on skin rejuvenation

## Investigating aging in human skin organ culture *ex vivo*

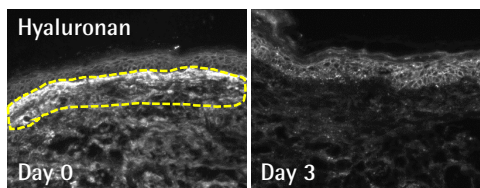
### 1. Full-thickness human skin organ culture is a model for skin aging



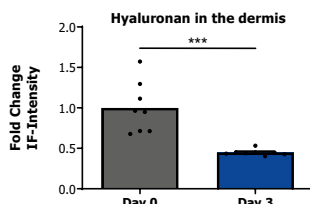
Representative images of Collagen XVII in basal cells.



Data from one experiment. Mean ± SEM, n = 2 punches analysed/group from one donor.



Representative images of Hyaluronan in the dermis.



Data from one experiment. Mean ± SEM, n = 2 punches analysed/group from one donor.

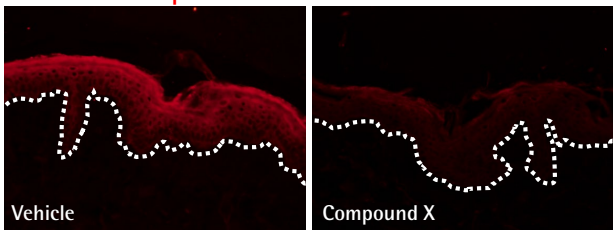
Our method:  
*Ex vivo* organ culture of full-thickness human skin with or without terminal hair follicles (Lu et al., Exp Dermatol 2007 ; Bertolini et al., Int J Cosmetic Sci 2020)

Selection of our publications on the topic:  
Bertolini et al., Int J Cosmetic Sci 2020; Vidali et al., J Invest Dermatol 2016; Vidali et al., J Invest Dermatol 2014

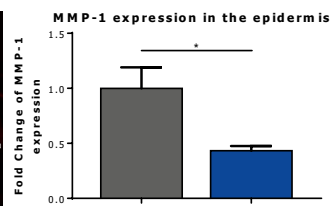
## Study example: Compound X promotes skin rejuvenation *ex vivo*

### 1. Compound X decreases degradation of extracellular matrix

#### Matrix metalloproteinase 1=MMP1

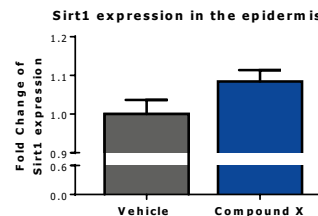


MMP-1 immunofluorescence reveals proteinase expression, responsible for degrading collagen, elastic, and fibrillin-rich microfibers.



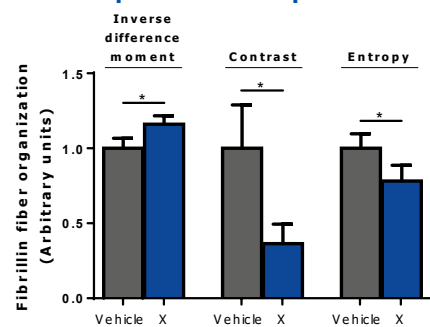
Data from one experiment. Mean ± SEM n = 2 punches analysed/group from one donor.

### 2. Compound X increases energy metabolism



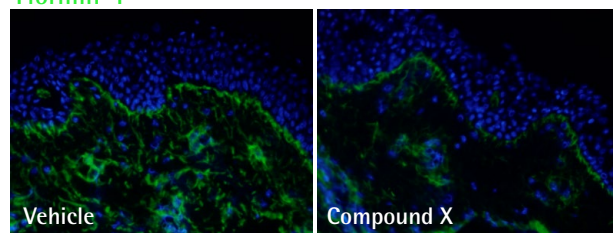
Pooled data from two independent experiments. Mean ± SEM n = 2 punches analysed/group from two different donors.

### 3. Compound X improves dermal fiber organization



Pooled data from two independent experiments. Mean ± SEM n = 2 punches analysed/group from two different donors.

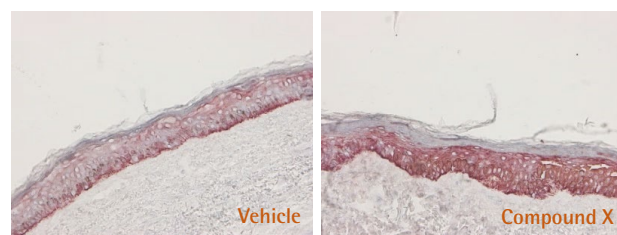
#### Fibrillin-1



Fibrillin fiber organization is a marker for intrinsic and extrinsic aging.

Read-outs:  
energy metabolism, mitochondrial biogenesis, oxidative stress, senescence, fiber composition, skin elasticity, ...

#### Sirtuin 1= Sirt1



Sirt1 immunoreactivity indicates mitochondrial homeostasis, regulating senescence, delays aging, and ensures genomic stability.

## Contact us for a customized study:

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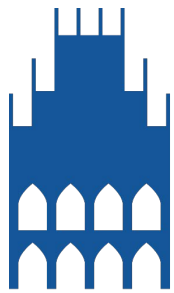
For more details see also our webpage:  
[www.monasteriumlab.com](http://www.monasteriumlab.com)



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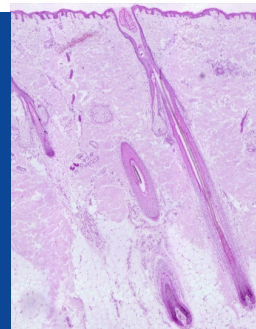


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