VitroScreen
A Visionary Future of Human Health

DERMIS

The dermis system recapitulates human dermal stroma in healthy condition in terms of tissue architecture and *de-novo* extracellular matrix assembly. Due to the highest biological relevance, the model mirrors the physiological aging process during the time of culture, preserving phenotype characteristic of the donor's cells.

Vascularized dermis: a co-culture with human primary microvascular endothelial cells is developed as customized system.

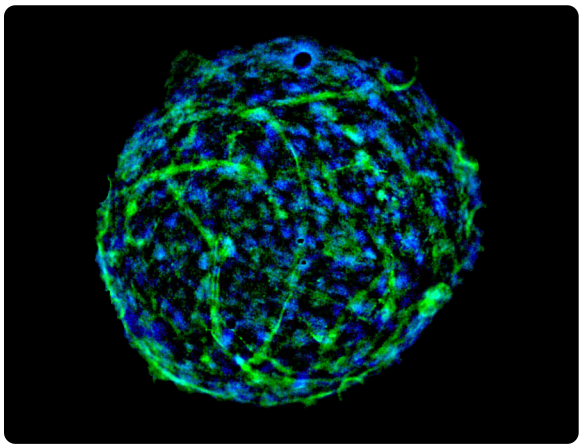
Applications

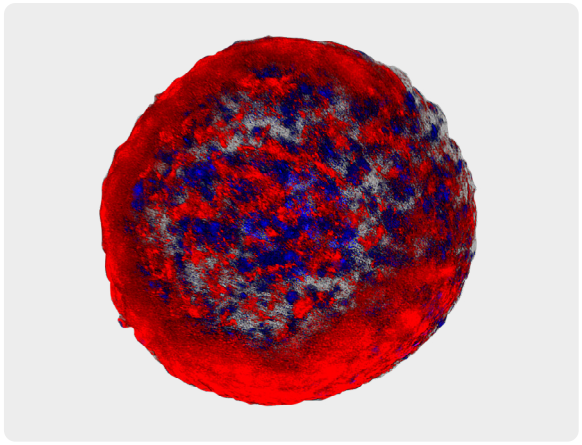
- To mirror intrinsic (during culture) and extrinsic (UVA induced) aging
- To model dermis disorders as fibrosis, pro-inflammatory status or oxidative stress
- To investigate hypoxia effects and glycation
- Dermis metabolism and detoxification
- Neo angiogenesis and modification to vascular branches network
- Inflammatory model in co-culture with adipose system

Cell source:
primary human dermal fibroblasts: donor's specific tissue

Shelf life:
up to 4 weeks

Relevance:
increase of collagen fibres amount and thickness during tissue assembly and dynamic evolution of ECM features according to natural senescence and donor's age.





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Articles

Gilda Aiello, Francesca Rescigno, Marisa Meloni, Beatrice Zoanni, Giancarlo Aldini, Marina Carini and Alfonsina D'Amato
The Effect of Carnosine on UVA-Induced Changes in Intracellular Signaling of Human Skin Fibroblast Spheroids
Antioxidants 2023, 12, 300 *https://doi.org/10.3390/antiox12020300*

Gilda Aiello, Francesca Rescigno, Marisa Meloni, Giovanna Baron, Giancarlo Aldini, Marina Carini and Alfonsina D'Amato
Oxidative Stress Modulation by Carnosine in Scaffold Free Human Dermis Spheroids Model: A Proteomic Study
International Journal of Molecular Sciences 2022, 23, 1468 *https://doi.org/10.3390/ijms23031468*

Francesca Rescigno, Laura Ceriotti, Marisa Meloni
Extra Cellular Matrix Deposition and Assembly in Dermis Spheroids
Clinical, Cosmetic and Investigational Dermatology 2021:14 935-943

Posters

M. Meloni, F. Rescigno, E. Caviola, G. Aiello, A. D'Amato and M. Carini
An Advanced Micro Physiological System for Dermatological applications
Poster ISID 2023, Tokio, 10-13.05.2023

Ceriotti Laura, Caviola Elisa, Meloni Marisa, Carriero Francesco
3D scaffold free micro-dermis model: an innovative tool to explore dermal matrix remodeling
Poster IFSCC 2019, Milan Italy

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