MATTEK

Now Part of Sartorius

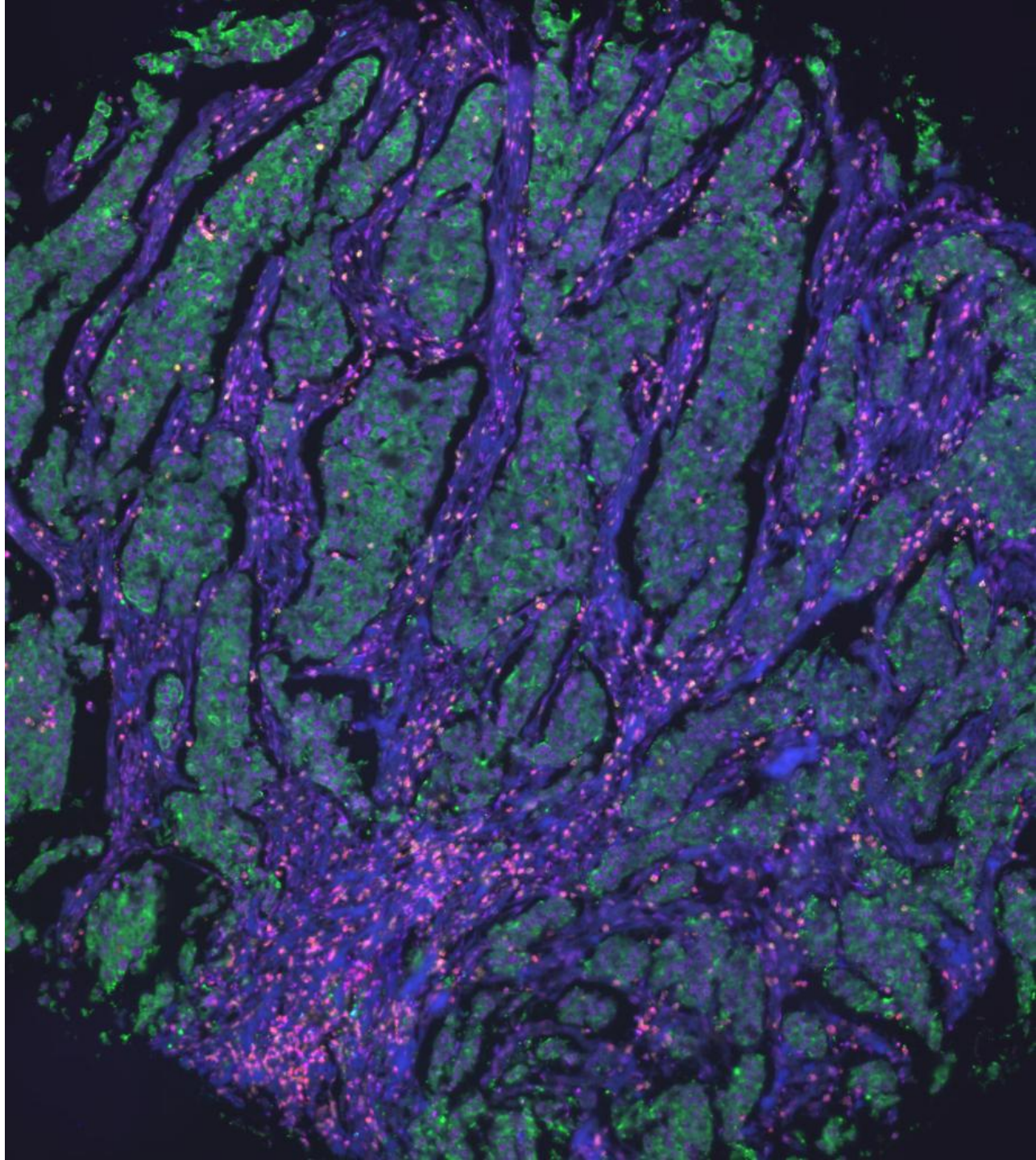
Wound healing in the EpiDerm FT full-thickness in vitro human skin model

Kick-off meeting of Visegrad project

28th of January 2026

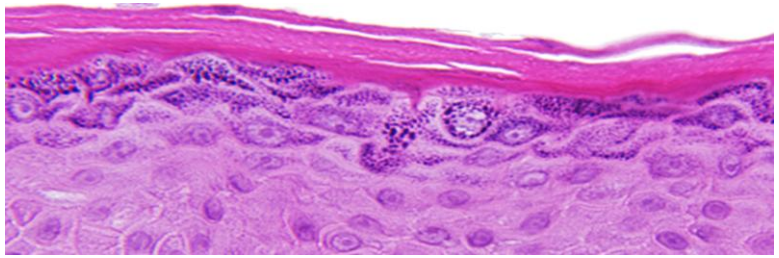
- Visegrad Fund

Ministry of Foreign Affairs



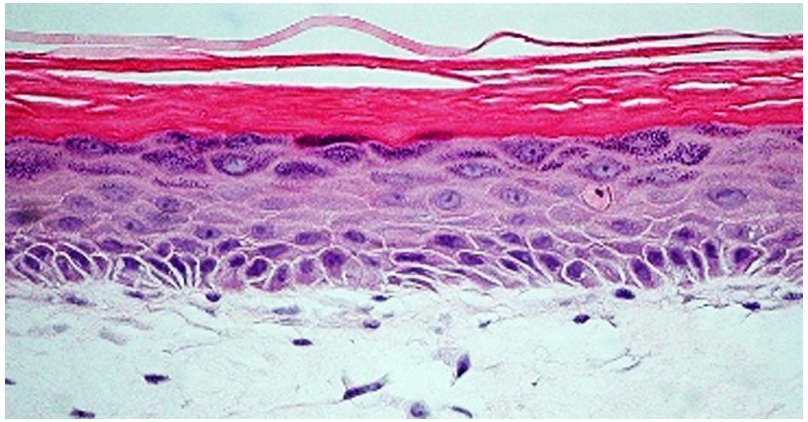
MatTek's in vitro 3D human tissue skin models

EpiDerm



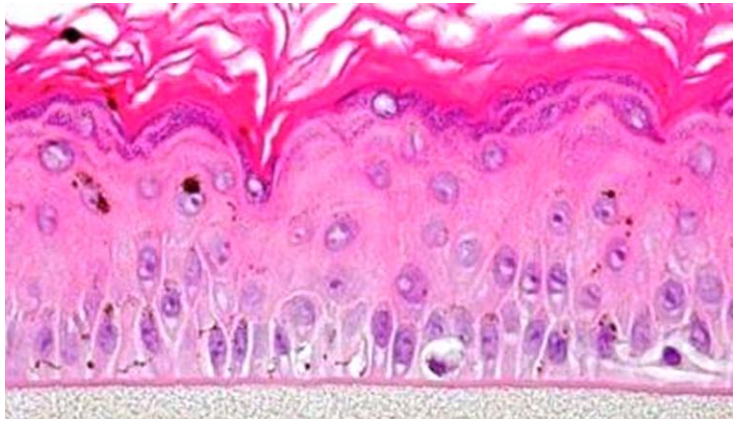
MatTek's EpiDerm system is a leading in vitro testing technology for dermal toxicologists and formulation scientists. With multiple OECD and ISO validated and accepted test guidelines, EpiDerm is a proven in vitro system for chemical, pharmaceutical and skin care product testing.

EpiDerm Full Thickness



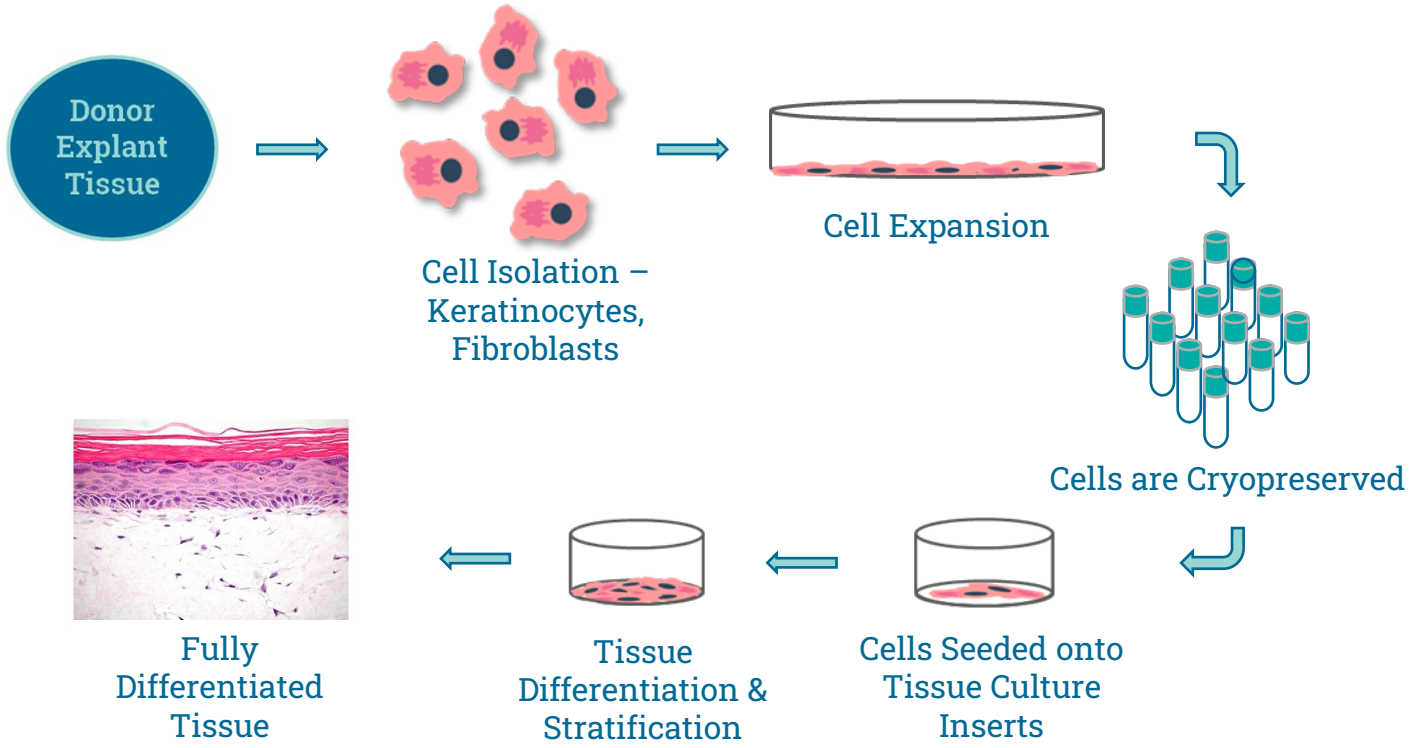
The development of innovative skin care products requires advanced, human-relevant in vitro testing technologies. When world-leading personal care and cosmetic scientists evaluate novel ingredients and formulations, they choose the EpiDerm FT 3D human skin model.

MelanoDerm

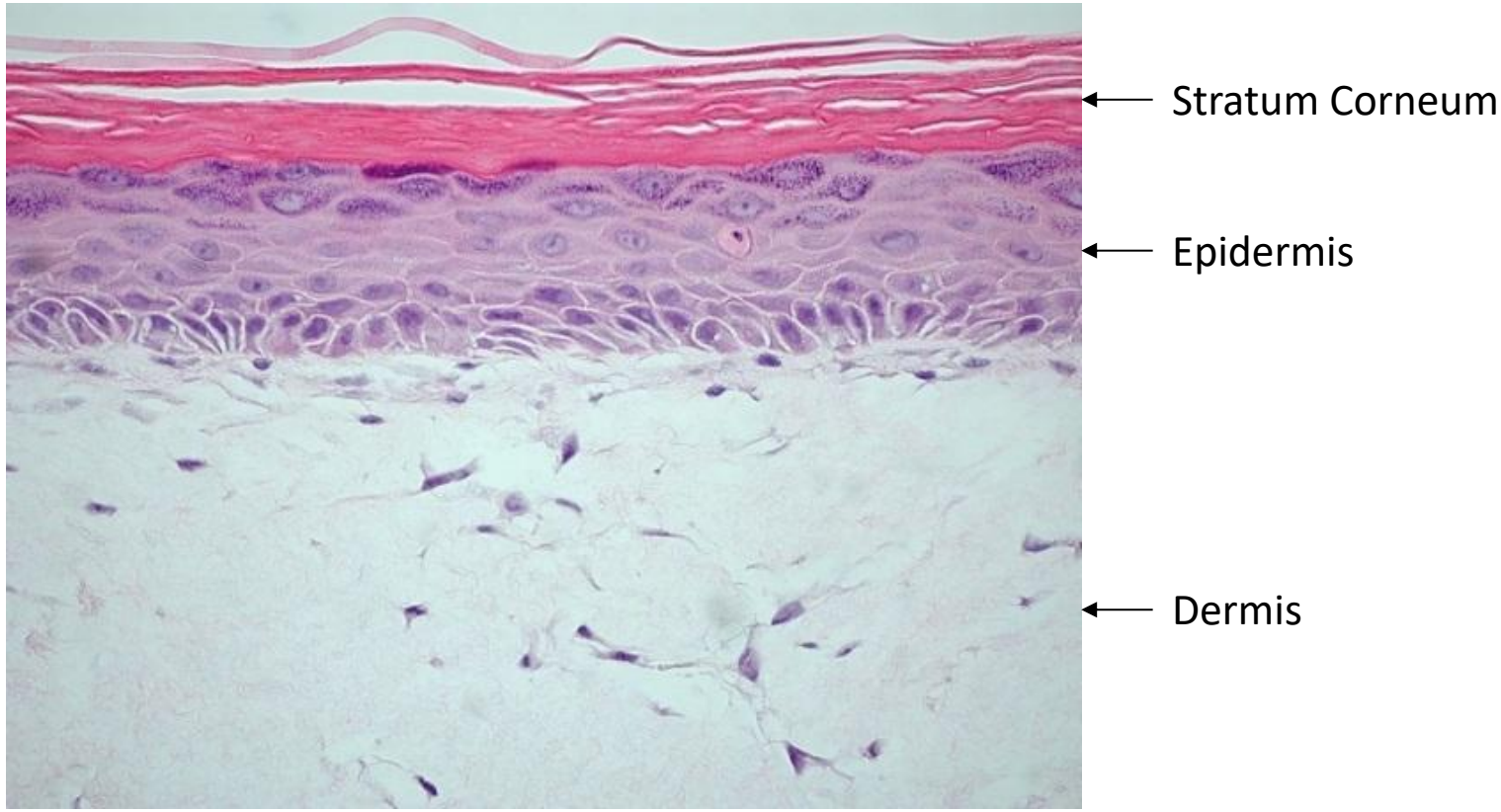


Ideal for the assessment of skin lightening agents and formulations, MelanoDerm is used by cosmetic scientists worldwide. Reduce the time and costs associated with clinical testing by screening compounds and formulations in MatTek's MelanoDerm 3D tissue model.

Technology Overview



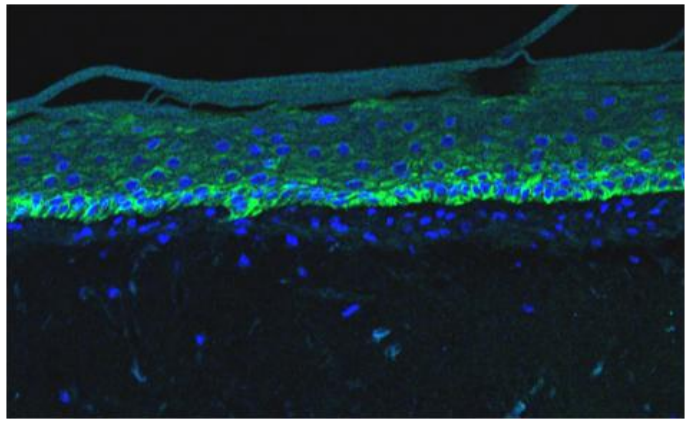
EpiDerm Full Thickness (EpiDerm FT)



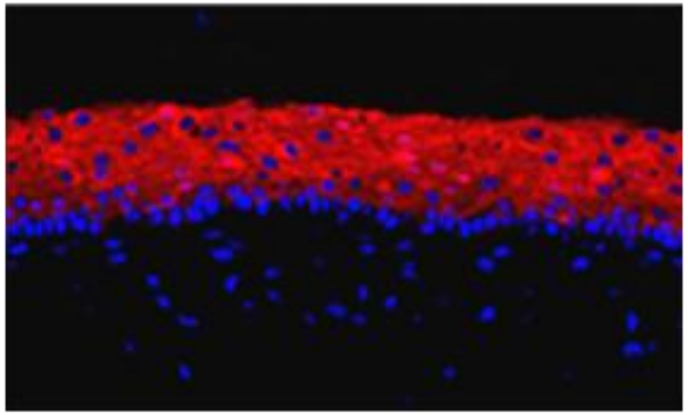
Histological cross-section of EpiDerm FT – in vitro 3D human tissue model (www.mattek.com)

EpiDerm FT

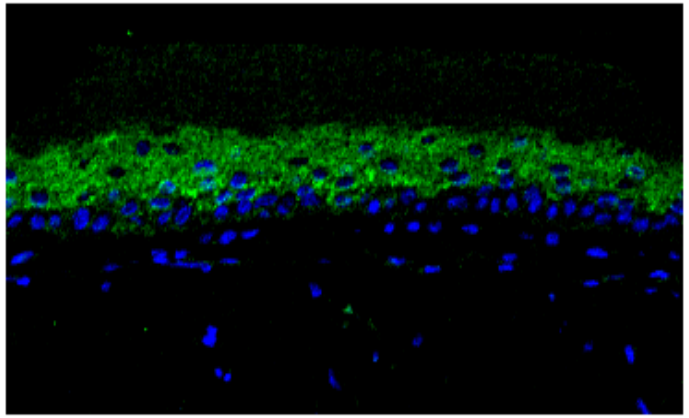
Keratin 5



Keratin 10

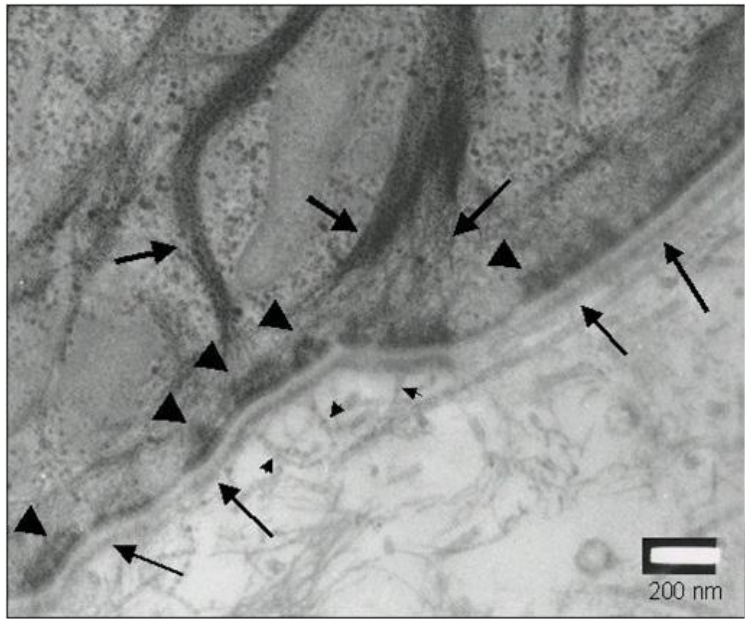


Involucrin



Immunofluorescence labeling of differentiation markers (www.mattek.com)

EpiDerm FT – basement membrane



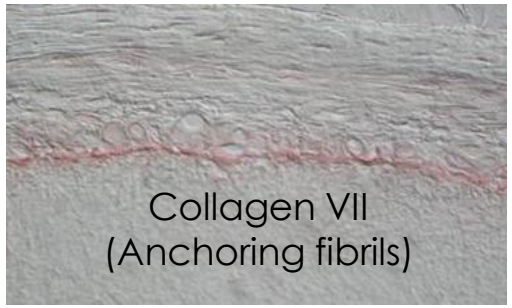
Transmission electron micrograph of EFT's basement membrane (Hayden *et al.*)

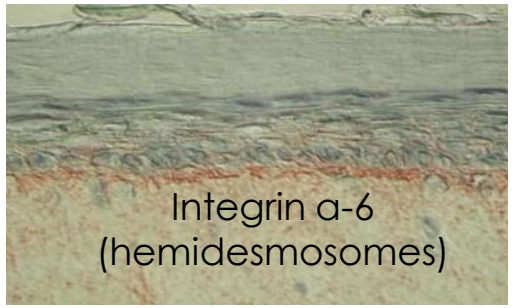
Lamina Densa (⟶)

Hemidesmosome (▶)

Anchoring Fibril (➔)

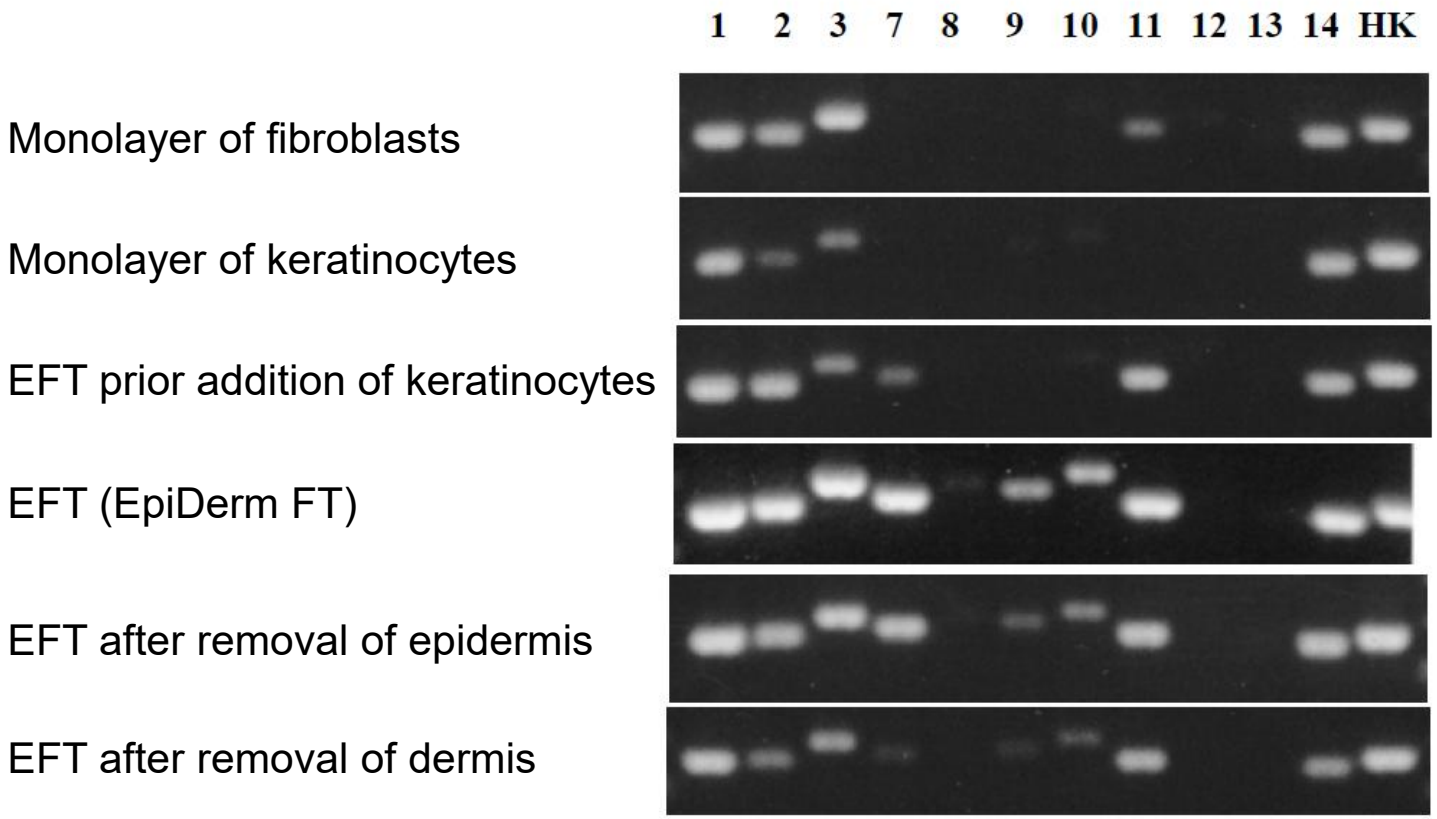
Tonofilament (⟶)





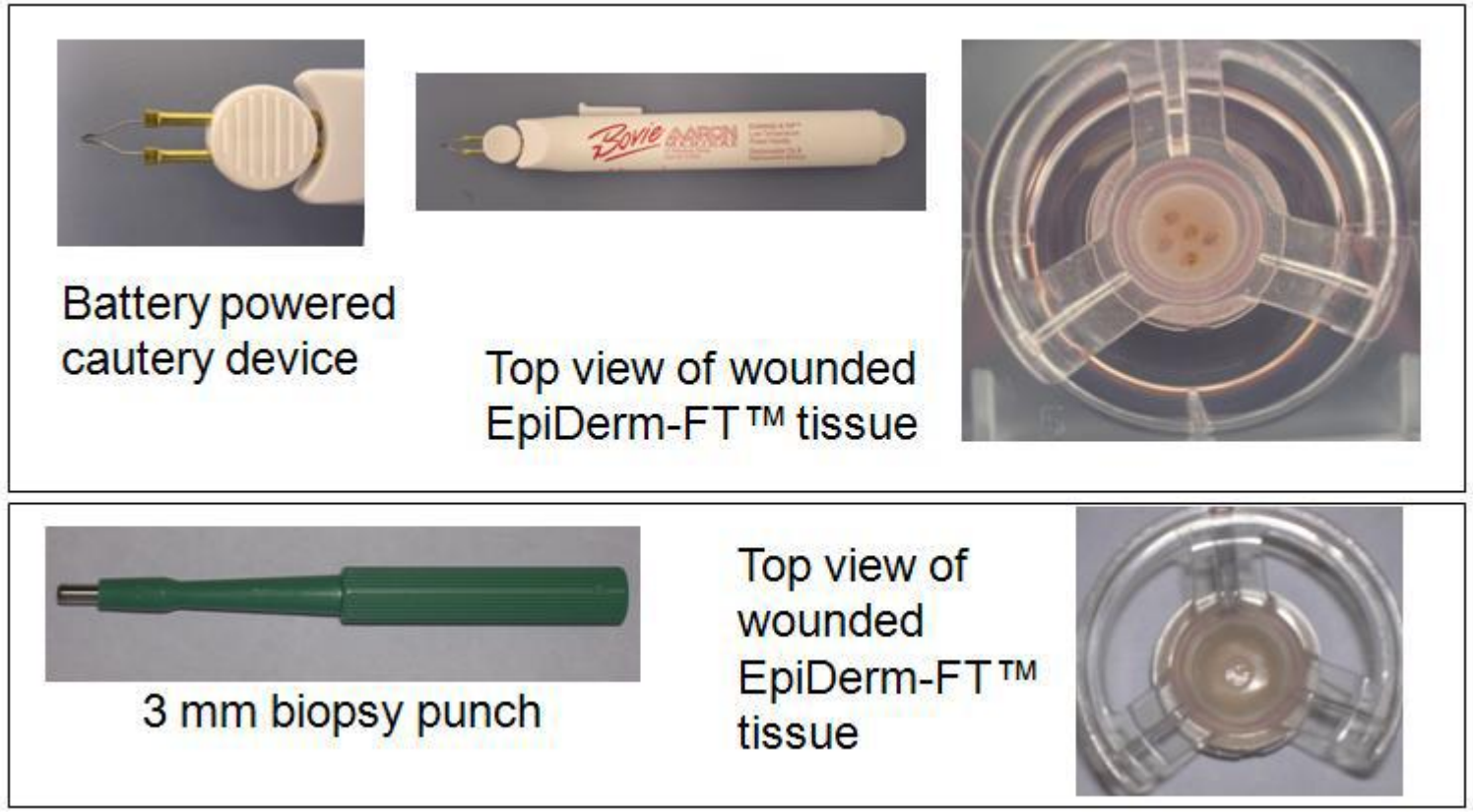
Immunohistochemical analysis of EpiDerm FT's basement membrane stractural proteins (Hayden *et al.*)

EpiDerm FT – Matrix Metalloproteinase (MMP) expression



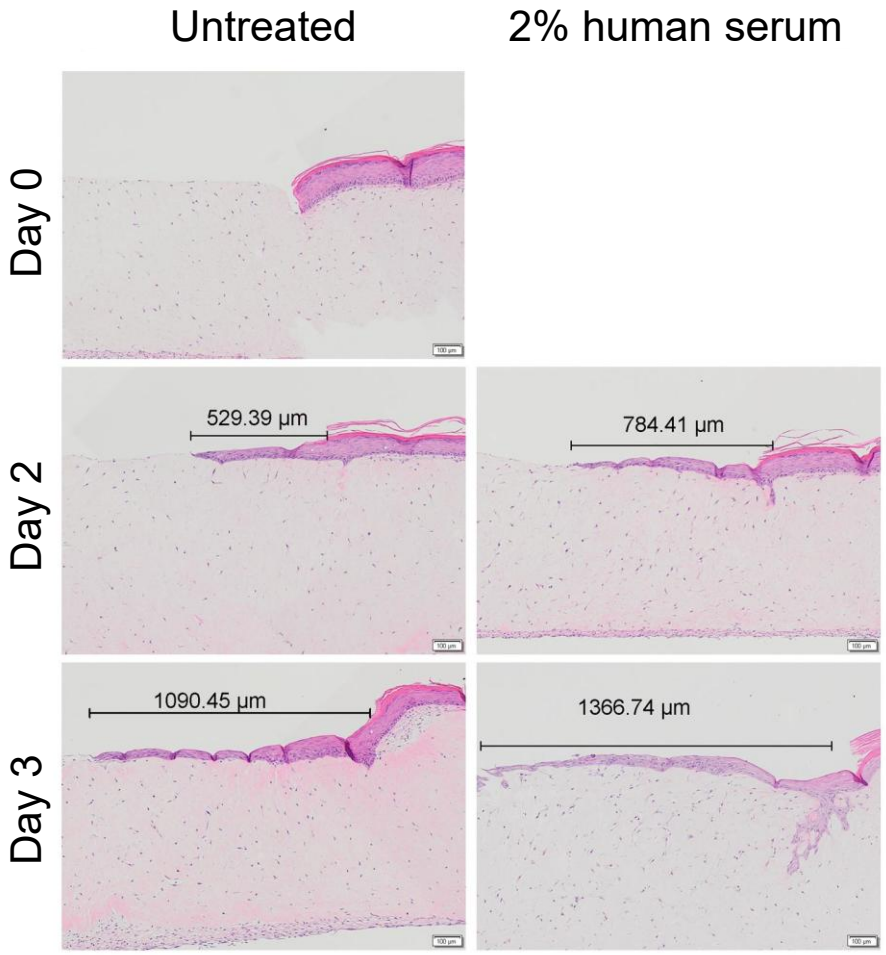
RT-PCR analysis of MMP expression in EpiDerm FT (Hayden *et al.*)

EpiDerm FT – Wound healing



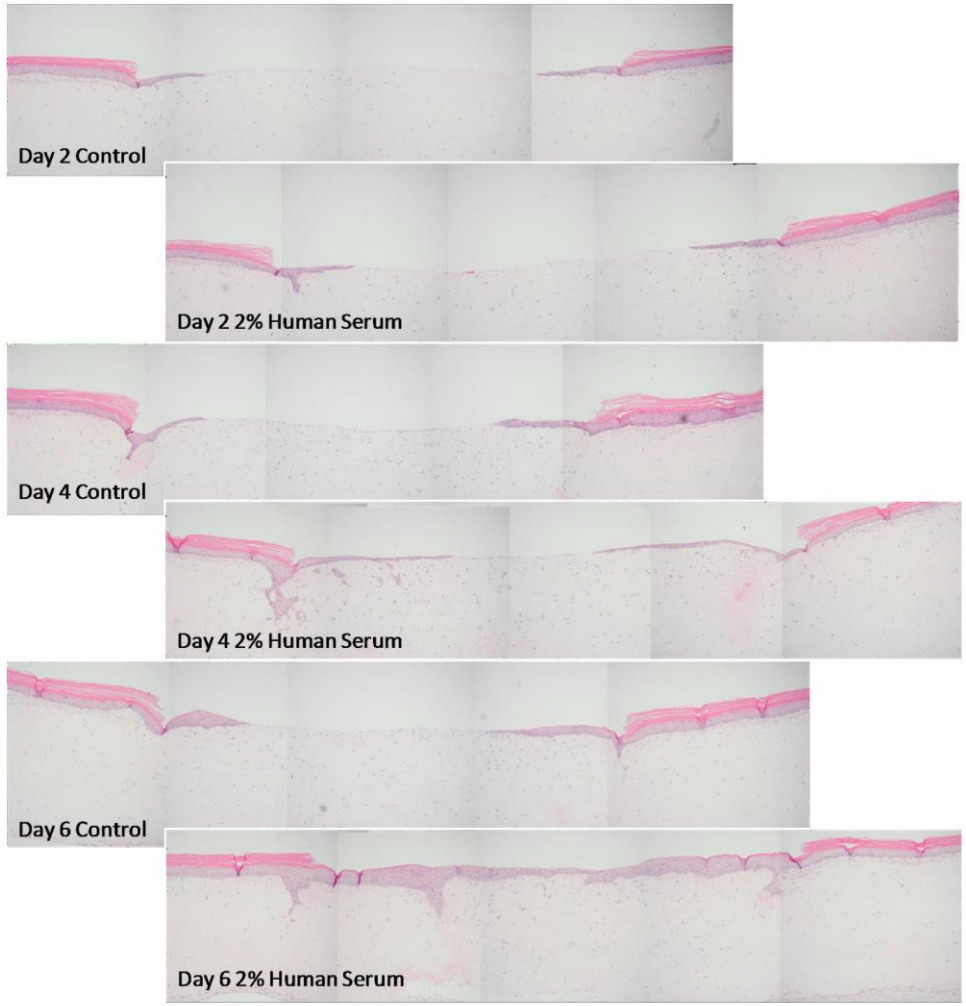
Wounding of EpiDerm FT tissue (Armento *et al.*)

EpiDerm FT – Wound healing



Histological evaluation of human serum on wound repair following punch biopsy. (Bachelor *et al.*)

EpiDerm FT – Wound healing



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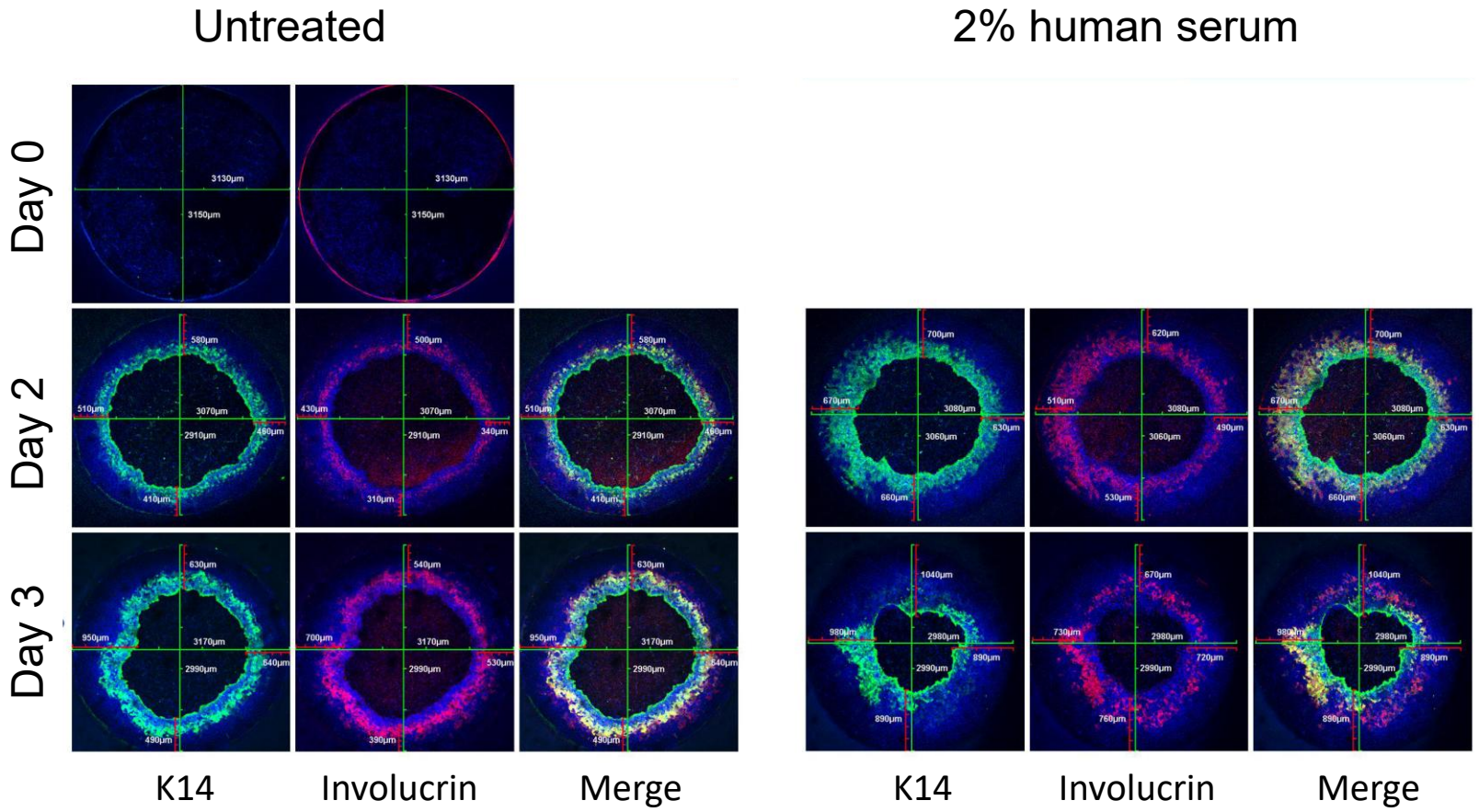
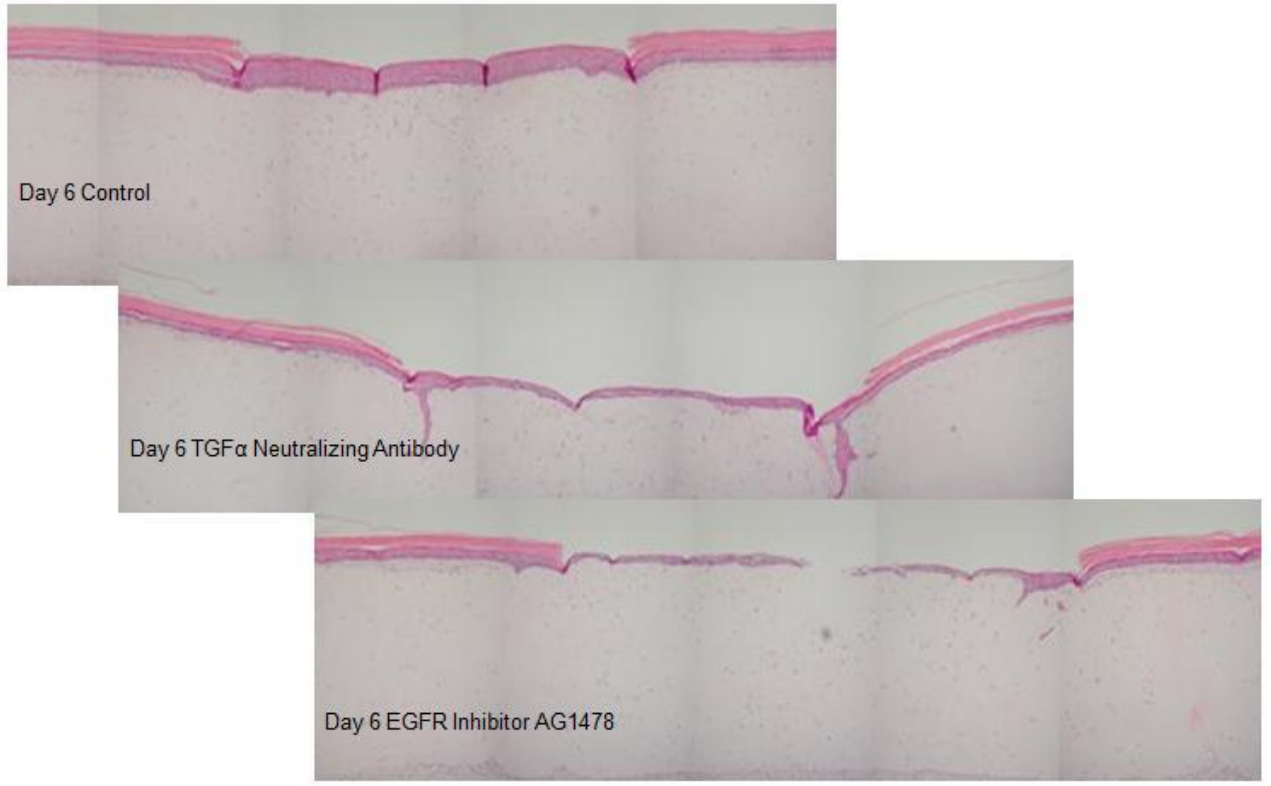
EpiDerm FT – Wound healing



Immuno staining of Keratin 14 (marker of proliferating basal keratinocytes) and Involucrine (marker of suprabasal cells). (Bachelor *et al.*)

EpiDerm FT – Wound healing



Effect of EGF pathway inhibition in Epiderm FT at day 6 after punch biopsy wounding in the presence of 2% human serum. (Armento *et al.*)

Acknowledgement

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Ministry of Foreign Affairs

Thank you

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