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Technical Data Sheet

Cell source

Phenion® FT Skin Models are produced from human primary keratinocytes and fibroblasts isolated from neonatal foreskin. Cells are neither pooled nor genetically modified.

Precautions

The Phenion® FT Skin Model is manufactured from material of human origin. Cell sources are tested and negative for Hepatitis B, Hepatitis C, HIV and mycoplasma. Nevertheless, human material should be regarded as potentially infectious and thus handled with care. Rules for handling human cell material should be applied.

Quality Control

The histology and sterility of full thickness skin models are tested during the manufacturing process.

Tissue Storage and Cultivation

On arrival, the Phenion® FT Skin Models should be transferred immediately to standard cell culture conditions. Provided the instruction manual is followed, long-term cultivation of up to 9 days after epidermal maturation is possible.

Scope of delivery

- Minimum delivery quantity: 6 full thickness skin tissues
- Phenion® FT Skin Model diameter: 1.3 cm
- Medium for full thickness skin model cultivation
- Instruction manual

Mature skin models are delivered in cell culture dishes using a special transport medium.

Intended use

Phenion® Full Thickness Skin Models are used for research purposes only.

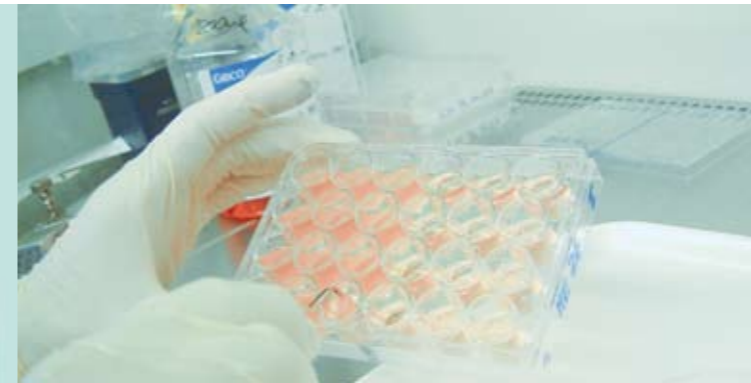
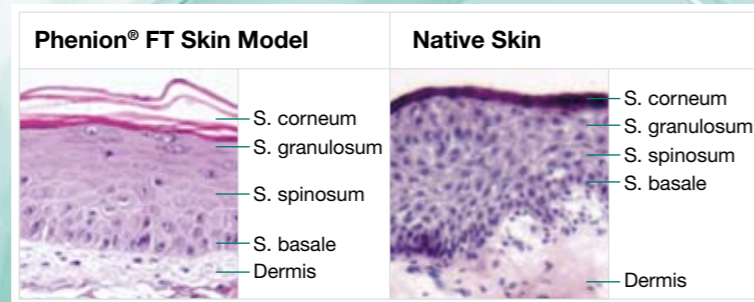
THEY ARE NOT TO BE USED FOR DIAGNOSTIC OR THERAPEUTIC PURPOSES.



September 2006 | design ageko

Phenion® Full Thickness Skin Model





Tissue Engineered Skin Substitute

The Phenion® Full Thickness (FT) Skin Model is a multilayered equivalent of the human skin. It consists of keratinocytes and fibroblasts derived from the same human donor.

After a cultivation period of five weeks, the *in vitro* full thickness skin model is fully developed. The model consists of an epidermis, a basement membrane and a dermis, featuring morphology and tissue functionality that is very close to human skin *in vivo*.

Expression of Marker Proteins

In the Phenion® FT Skin Model, markers of epidermal differentiation are expressed similar to normal skin, e.g. cytokeratin 10, filaggrin, transglutaminase and involucrin. At the dermal-epidermal junction, laminin and collagen IV, two major proteins of the basement membrane can be detected. In the dermal compartment, elastin and fibronectin are synthesized *de novo* by the integrated fibroblasts. Positive staining for Ki-67 indicates the proliferative capacity of the stratum basale.

Contract Research and Test Service

Phenion® Contract Research and Test Service (CRTS) covers the entire range of human skin cell culture.

Starting with a monolayer culture of single cells, like keratinocytes, fibroblasts, melanocytes, etc., we proceed via epidermal models and the Phenion® FT Skin Model to human volunteer studies to determine the skin compatibility and efficacy of cosmetic or pharmaceutical formulations or actives. It is our philosophy to provide clients with the best state-of-the-art skin culture technology available in the market to address your specific R&D needs.

Core Competencies

- More than 20 years of expertise in skin physiology
- Tissue engineering
- Efficacy testing *in vitro* and *in vivo*

Key Benefits

- Proven track record with skin care industry
- Close collaboration with leading dermatologists
- Contract Research and Test Services in the spirit of GLP
- Monitoring of recent activities in the field of experimental dermatology

The following endpoints can be analyzed

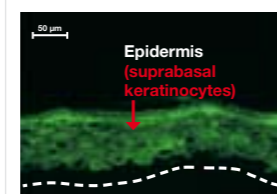
- Epidermal differentiation
- Cell viability
- Anti-inflammatory effects
- Anti-aging effects
- Extracellular matrix
- ...

We apply state-of-the-art techniques

- **Histology**
Light and electron microscopy | immunohistology
- **Protein synthesis**
Secretion | enzyme activity
- **Gene expression**
PCR techniques | chip analysis
- **Lipid analysis**
- ...

Suitable for

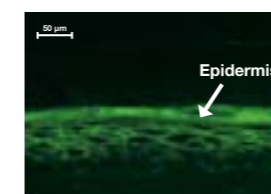
- Long-term observation of up to 9 days after maturation
- Topical or systemical application
- Repeated dosing
- Measurement of epidermal and dermal markers on protein and molecular biological level
- Vitality and efficacy testing



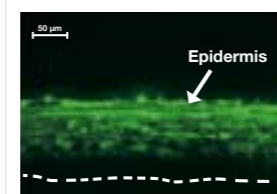
Cytokeratin 10



Filaggrin



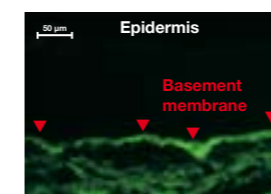
Transglutaminase



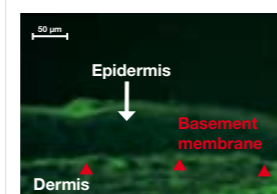
Involucrin



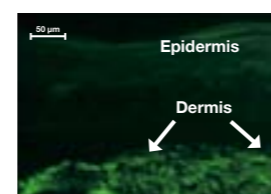
Ki-67



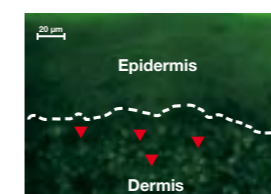
Laminin



Collagen IV



Elastin



Fibronectin