

Presse-Information

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Statement

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Reconstructed Skin Models (HF)

The development of reconstructed human epidermis – so called Epidermal Models – is a success story. These skin models are the first 3D organotypic cell culture models that are a standalone replacement for animal testing. They are accepted for the use of skin corrosion and skin irritation of chemicals. These tests have been carried out on rabbits before. The skin models are not accepted universally for testing, but due to high ethical demands coming from cosmetics industry, animal testing in the cosmetic field is not allowed for skin corrosion and skin irritation testing any more. Skin models are not only used in the world of regulatory toxicology, but also for research, for efficacy testing and as screening tools, for many products that come into contact with human skin. CellSystems is the only independent European manufacturer of a validated and worldwide accepted Epidermis model (“EST1000”) for the use in regulatory toxicology. It has been launched in 2004 and is an established tool for research and toxicology.

An increasing demand for skin models can be observed in the last years, leading to more and more companies that develop their activities in this field. The cell culture techniques for epidermal models are established in the academic field. However for skin model production on an industrial scale, there are still a lot of challenges. Reliability of the production process, high reproducibility and good quality assurance is a must.

This is especially true for the development of more complex skin models, i.e. reconstructed full thickness skin – comprising not only the epidermis but also a dermis equivalent. These models allow studying interactions between the two compartments and can be used in different fields. Still a research and efficacy tool but developing into a skin model which will play important roles in more complex toxicological areas such as gene toxicology. CellSystems was the first company that placed such a full thickness model (called AST2000) on the market.

The diversity for skin models, including cells of the immune systems, endothelial cells or other cells is expanding. This reflected by the presentations given at the symposium. The market is open for more complex models.