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Development of a vernix caseosa substitute : a novel strategy to improve skin barrier function and repair

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Stellingen

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Development of a vernix caseosa substitute

A novel strategy to improve skin barrier function and repair

1. The low content of cholesterol, free fatty acids and ceramides in vernix caseosa lipids implies that the primary function of the biofilm is not only to limit the diffusion of substances across vernix caseosa, but also to protect the initially formed stratum corneum of the foetus from direct contact with the amniotic fluid. *This thesis*
2. The thermotropic transitions at physiological temperature-range and the resulting reduced dehydration rate of vernix caseosa at lower temperatures plays an important role in minimizing the water loss from the skin of the newborn. *This thesis*
3. The lipids of vernix caseosa might also form the long periodicity phase *in utero*. This emphasizes the putative role of the natural biofilm in facilitating the formation of the barrier in the immature, foetal skin. *This thesis*
4. A potential clinical use of synthetic vernix caseosa is facilitating the formation of the skin barrier. *This thesis*
5. In synthetic vernix, lipids, including barrier lipids, play a more prominent role for skin barrier recovery after tape-stripping than the presence of water containing corneocytes. *This thesis*
6. Vernix caseosa can be seen as “fluid or mobile phase” stratum corneum. (William Pickens *et al.*, *Journal of Investigative Dermatology*, 115: 875-81, 2000)
7. Improved knowledge of the structure of the skin and the importance of disturbed epidermal differentiation in dry skin indicates that restoration of normal epidermal differentiation is the best way to manage dry skin. (Ehrhardt Proksch, *Skin Pharmacology and Physiology*, 21: 75-80, 2008)
8. Seeing clearly is not necessarily believing. (Mott Greene, *Nature*, 435: 143, 2005)
9. Basic research is like shooting an arrow into the air and, where it lands, painting a target. (Homer Burton Adkins)
10. If we knew what we were doing, it wouldn't be called research, would it? (Albert Einstein)
11. Umwege erhöhen die Ortskenntnis. [Detours lead to more knowledge of a place.] (Vietnamese proverb)

Robert Reißmann, Leiden, March 2009