

Cover Page



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A BREACHED BARRIER  
Analysis of stratum corneum lipids and their role  
in eczematous patients

Jeroen van Smeden

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About the cover: The Great Wall of China is the largest man-made barrier in the world. With a total length of over 20,000 km, it was built as protection against invaders. Although it is clearly the most impressive barrier on earth made by men, its function as a barrier is nothing compared to the barrier function of humans largest organ, the skin. Although it is only about 0.0002 meter thick, it protects the body against continuous attacks from the environment. For example the number of bacteria that continuously try to breach the skin barrier, is estimated at 1,000,000,000,000 on an average human being, not taking into account other pathogens that may penetrate the skin. The skin barrier is located at the outermost layer of the skin, the horny layer (stratum corneum) and just like the Great Wall it is composed of a brick and mortar-like structure. In atopic eczema however, the skin barrier is impaired, and pathogens may penetrate the skin and cause an allergic reaction, often accompanied by red, dry, and itchy skin. This thesis describes several studies in which the skin barrier in eczematous patients is investigated.

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in 1984

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**To my loved ones,  
Bianca, Lucas en Matthijs**



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