



The Skin – A Killer Defence System!

The body's largest organ – the skin – contains antimicrobial peptides (AMPs), which are the body's first line of defence against infection, delegates to the Australasian College of Dermatologists' Annual Scientific Meeting heard.

Professor of Medicine and Paediatrics at the University of California, Professor Richard Gallo, says antimicrobial peptides (AMPs) are essential for a normal immune defence.

There are approximately 30 AMPs, which are short proteins which commonly display bacteria killing (bacteriocidal) properties.

"There are over 30 known antimicrobial peptides which are normally present on the skin," says Professor Gallo.

"These peptides are often known in a different medical context, as many serve a number of functions.

"They possess the ability to provide protection in many ways – disrupting membranes to kill bacteria, and triggering inflammation, among others."

AMPs have the potential to impact dermatology enormously, as an understanding of the correlation between AMP production and disease is gained.

"Studies are allowing us to identify common skin diseases in which there is an over or under production of AMPs, which has the potential to impact treatment," says Professor Gallo.

"Psoriasis and rosacea are examples of over-productive systems, which may also result in a decrease in secondary infections related to the disease, while atopic dermatitis is an example of decreased AMP production, and hence an increase in secondary infections.

"Current studies using mice have provided clear illustrations of the effectiveness of the AMPs in fighting a range of microbial skin conditions.

Honorary Secretary of the Australasian College of Dermatologists, Dr Stephen Shumack, says this research has great potential for the treatment and management of many infective skin conditions, including antibiotic resistant organisms such as MRSA, which have been very topical of late.

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