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Researchers develop compounds for treating psoriasis

12 September 2017 | News

Solenopsins are the main toxic components of fire ant venom.



In a recent study, scientists from Emory & Case Western University have shown that compounds derived from fire ant venom can reduce skin thickening and inflammation in a mouse model of psoriasis.

Solenopsins are the main toxic components of fire ant venom. They chemically resemble ceramides, which are lipid-like molecules essential for maintaining for the barrier function of the skin. Ceramides can be found in many skin care products.

For this study, the team of researchers used solenopsin analogs or similar to act as ceramides over the skin but not be broken down to sphingosine-1-phosphate (S1P) to cause the skin damage. They tested this theory on a special strain of laboratory mice called the KC-Tie2 mouse. Solenepsin preparations were applied over the skin of these psoriatic mice for 28 days. It was seen that the severity of the inflammation reduced with the application. This restored the barrier function of the skin and also reduced inflammation.

The findings could lead to new treatments for psoriasis, a common autoimmune skin disease. Topical steroids are now most frequently used for mild to moderate psoriasis, but they have side effects such as skin thinning and easy bruising.