

Food allergy development linked to skin exposure

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Food allergies are on the rise in the U.S. and other developed countries. In patients, food allergies appear as a variety of symptoms, ranging from mild skin inflammation to severe asthma. Recent studies suggest that contact between inflamed skin and food proteins may trigger food allergy development.

A new study in the *Journal of Clinical Investigation* provides a link between skin sensitization, [gastrointestinal inflammation](#), and food allergy.

Using a [mouse model](#), Steven Ziegler and colleagues at the Benaroya Research Institute found that skin exposure to a combination of food antigen (peanut or egg proteins) and the pro-inflammatory molecule thymic stromal lymphopoietin (TSLP) results in food allergy.

Dermal application of TSLP and antigen resulted in a severe allergic reaction, including diarrhea and anaphylaxis, when mice ingested the antigen. Skin sensitization to antigen required TSLP.

However, development of allergic responses in the gut required IL-25, a protein that regulates the intestinal immune response. Interestingly, mice given antigen orally prior to [skin sensitization](#) did not develop an allergic response.

The results from this study provide a mouse model for skin-induced [food allergy](#) development that could be used to test potential therapeutic

interventions.

More information: Thymic stromal lymphopoietin–mediated epicutaneous inflammation promotes acute diarrhea and anaphylaxis, *J Clin Invest.* [DOI: 10.1172/JCI77798](https://doi.org/10.1172/JCI77798)

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