

THERAPEUTIC TARGETS FOR ATOPIC DERMATITIS

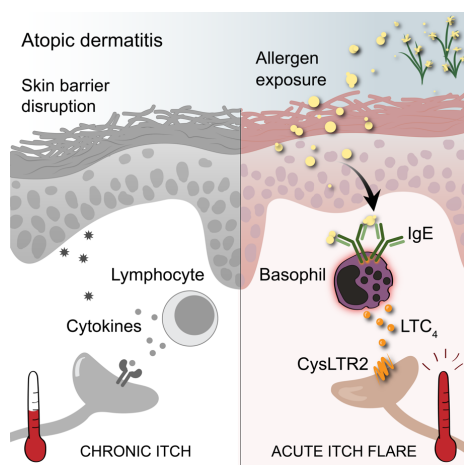
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T-019333

Researchers at Washington University's [Center for the Study of Itch & Sensory Disorders](#) have discovered a novel histamine-independent pathway that could be targeted to treat atopic dermatitis.

Atopic dermatitis (AD) is a chronic inflammatory skin disease that presents with itch as its most central and debilitating symptom. While antihistamines are often used to treat AD-associated itch, they are very limited in efficacy and new, histamine-independent therapies are needed. This technology provides a novel approach to treating AD-associated itch by targeting the effects of basophils and their products in mediating itch. Specifically, the inventors have discovered a key mechanism by which basophils activate sensory neurons to induce itch *in vivo*. This pathway includes several potential targets including an enzyme with FDA-approved inhibitor and a downstream G Protein-Coupled Receptor (GPCR) on sensory neurons. Immuno/neuromodulators that target this pathway could provide a first-in-class approach to treating AD itch, particularly in patients with allergic disorders who do not respond to antihistamine therapy.



Stage of Research: The inventors used a mouse model of acute itch flares to demonstrate the mechanism by which basophils and their associated products cause itch.

Publication: Wang, F., Trier, A. M., Li, F., Kim, S., Chen, Z., Chai, J. N., ... & Yang, T. L. B. [A Basophil-Neuronal Axis Promotes Itch.](#)

Applications:

- **Treatment for atopic dermatitis itch** through drug repurposing or developing new immune/neuromodulator agents to target this pathway

Key Advantages:

- **First-in-class, histamine-independent pathway:**
 - novel mechanism with potential to treat patients who do not respond to current therapies that target to histamine/mast-cell pathways

- potential to repurpose known FDA-approved drug that targets a key enzyme in this pathway

Patents: Application pending

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