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Astrocytes in the spinal dorsal horn and chronic itch

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Highlights

- Chronic itch is a hallmark symptom of inflammatory skin conditions, such as atopic dermatitis.
- Recent studies have uncovered the causal role of astrocytes in the spinal dorsal horn using mouse models of chronic itch.
- Astrocytic molecules might be a promising target for treating chronic itch.

Abstract

Chronic itch is a hallmark symptom of inflammatory skin conditions, such as atopic dermatitis. Existing treatment for chronic itch is largely ineffective. Despite recent progress in our understanding of the neuronal basis for itch sensation in the peripheral and central nervous systems, the mechanisms underlying how itch turns into a pathological chronic state remain poorly understood. Recent studies have uncovered the causal role of astrocytes in the spinal dorsal horn using mouse models of chronic itch, including atopic dermatitis. Understanding the key roles of astrocytes may provide us with exciting insights into the mechanisms for the chronicity of itch sensation and clues to develop novel therapeutic agents for treating chronic itch.

Keywords: Astrocytes, Chronic itch, Spinal dorsal horn, STAT3

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