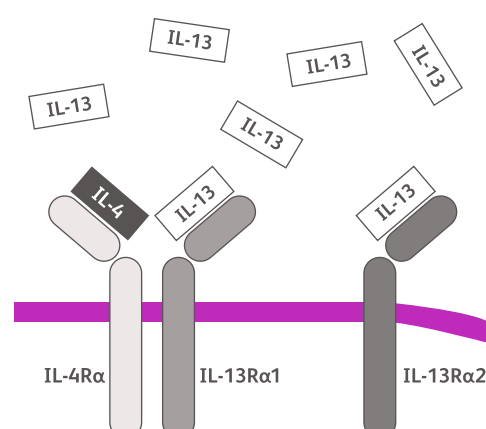


Interleukin-13 (IL-13) Signaling in Inflammatory Diseases

About IL-13 Signaling

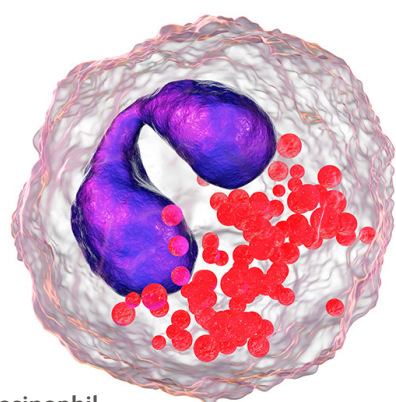
IL-13 is a type of small protein, known as a cytokine, that plays an important role in the immune system's response to an invading parasite or an allergen.¹

IL-13 exerts its effects by binding to receptors called IL-13Rα1 and IL-13Rα2 found on cell surfaces.



When IL-13 binds to its receptors, it sets off a series of pathways that lead to cell-to-cell communication, known as signaling, triggering normal inflammatory processes that protect the body.^{2,3}

IL-13's Role in Inflammatory Diseases



Eosinophil

Though IL-13 is a normal part of the human immune response, it can be dysregulated. Signaling from IL-13Rα1 can contribute to allergic inflammation (an inappropriate inflammatory response) and chronic inflammation can result in fibrosis (tissue damage or scarring). In addition, signaling from IL-13Rα2 may contribute directly to fibrosis.^{1,4-6}

Allergic inflammation is regulated by cytokines, including IL-13, that play a key role in the recruitment of inflammatory cells to sites of inflammation.¹

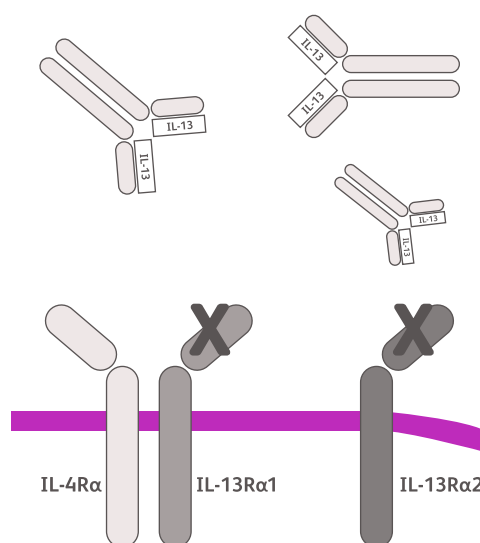
Eosinophils are one such type of inflammatory cell. While present in low numbers in healthy individuals, larger numbers of eosinophils can contribute to the development of multiple inflammatory diseases, such as eosinophilic esophagitis, atopic dermatitis, eosinophilic and allergic asthma, and chronic rhinosinusitis with nasal polyps.³

IL-13 has been found to be elevated in patients with eosinophilic disorders, with IL-13 signaling contributing to the recruitment, activation, and survival of eosinophils.³

Research Implications

Researchers are investigating potential ways to inhibit IL-13 signaling to prevent inflammation and fibrosis.^{7,8}

One strategy involves blocking IL-13 before it can bind to receptors on cell surfaces, preventing the activation of subsequent signaling pathways.^{7,8}



At Bristol Myers Squibb, we continue to pioneer novel approaches by leveraging our depth of experience to advance research in immune-mediated and inflammatory diseases.

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