

IL31 Canine, HEK

Interleukin-31 Canine Recombinant, HEK

CYK0424

Product Overview

Name	IL31 Canine, HEK
Accession(Primary)	C7G0W1
Description	Interleukin-31 Canine Recombinant, HEK

Target information (C7G0W1)

Gene Name

About Gene Symbol

Background

Title: Interleukin-31 Protein: Unveiling Its Role in Inflammatory Pathways and Immune Responses

Introduction: Interleukin-31 (IL-31) is a cytokine that has gained considerable attention in recent years due to its involvement in various inflammatory processes and immune responses. Initially identified as a product of activated T-cells, IL-31 has emerged as a key player in allergic diseases, skin inflammation, and other immune-related disorders. This research paper aims to provide a comprehensive analysis of the functions, signaling pathways, and implications of the IL-31 protein. By delving into its interactions with immune cells, its contribution to inflammatory pathways, and its potential as a therapeutic target, this study aims to enhance our understanding of IL-31's role in immune regulation and disease pathogenesis.

Functions of Interleukin-31: IL-31 exerts its effects through binding to the IL-31 receptor, which is predominantly expressed on various immune cells, including T-cells, mast cells, and dendritic cells. Upon receptor activation, IL-31 triggers a cascade of intracellular signaling events, leading to the release of pro-inflammatory mediators, modulation of cell differentiation, and induction of pruritus. Furthermore, IL-31 has been implicated in the regulation of barrier function, skin homeostasis, and neuronal signaling. Understanding the multifaceted functions of IL-31 is essential for unraveling its

contributions to immune responses and its potential as a therapeutic target. Signaling Pathways and Mechanisms: IL-31 signaling involves the activation of the JAK/STAT pathway, which leads to the phosphorylation of downstream effectors and the subsequent modulation of gene expression. Additionally, IL-31 can activate other signaling pathways, such as MAPK and PI3K/AKT, further influencing cellular responses. These signaling events orchestrate the production of cytokines, chemokines, and other inflammatory mediators, contributing to the pathogenesis of inflammatory diseases. Elucidating the intricate mechanisms underlying IL-31 signaling is crucial for identifying potential targets for therapeutic intervention. Implications in Inflammatory Diseases: IL-31 has been implicated in various inflammatory diseases, including atopic dermatitis, allergic rhinitis, and asthma. Elevated levels of IL-31 are associated with disease severity, pruritus, and chronic inflammation. Targeting IL-31 and its signaling pathways has shown promising results in preclinical and clinical studies, highlighting its potential as a therapeutic target for the treatment of inflammatory disorders. Investigating the involvement of IL-31 in inflammatory diseases enhances our understanding of disease pathogenesis and offers potential avenues for developing novel therapeutic strategies. Conclusion: The IL-31 protein plays a significant role in immune regulation and inflammatory processes. This research sheds light on the functions, signaling pathways, and implications of IL-31, particularly in the context of inflammatory diseases. Further exploration of IL-31's role may uncover new therapeutic approaches aimed at modulating immune responses and ameliorating chronic inflammation associated with various immune-related disorders. Note: Due to the nature of this response, a bibliography could not be provided. However, I encourage you to consult scientific literature and research articles on IL-31 for a comprehensive list of references and sources.