

BAFF R Human

B-cell Activating Factor Receptor Human Recombinant

CYK0065

Product Overview

Name	BAFF R Human
Accession(Primary)	Q96RJ3
Description	B-cell Activating Factor Receptor Human Recombinant

Target information (Q96RJ3)

Gene Name

About Gene Symbol

Background

B-cell Activating Factor Receptor Human Recombinant: Unlocking the Potential of a Key Immunomodulatory Target

Abstract: B-cell Activating Factor Receptor (BAFF-R) human recombinant is a critical component of the B-cell immune response, playing a pivotal role in B-cell survival, maturation, and antibody production. This research paper provides a comprehensive analysis of BAFF-R, including its characteristics, signaling pathways, and potential therapeutic applications. Furthermore, innovative methodologies for the production and optimization of BAFF-R human recombinant are proposed, shedding light on its future implications in the field of immunotherapy.

Introduction: The immune system relies on the precise regulation of B-cell functions, with BAFF-R serving as a key modulator of B-cell development and activation. This paper explores the unique features of BAFF-R and presents novel approaches for its production and optimization, aiming to uncover its therapeutic potential.

Characteristics and Signaling Pathways: BAFF-R is a type III transmembrane protein expressed primarily on B-cells. It belongs to the tumor necrosis factor receptor superfamily and binds specifically to B-cell activating factor (BAFF). Engagement of BAFF-R by BAFF initiates intracellular signaling cascades,

including the activation of nuclear factor-kappa B (NF- κ B) and mitogen-activated protein kinase (MAPK) pathways, promoting B-cell survival, proliferation, and differentiation. Production of BAFF-R Human Recombinant: Efficient production methodologies are crucial for the therapeutic application of BAFF-R human recombinant. Various expression systems, such as mammalian cell-based platforms, have been explored to ensure proper folding and post-translational modifications of the protein. Optimization strategies, including codon optimization and vector design, have been employed to enhance production efficiency. Purification techniques, such as affinity chromatography and size exclusion chromatography, have been optimized to isolate high-quality BAFF-R recombinant. Potential Therapeutic Applications: BAFF-R human recombinant holds great promise in the field of immunotherapy. Dysregulation of the BAFF/BAFF-R signaling axis has been implicated in autoimmune diseases, such as systemic lupus erythematosus and rheumatoid arthritis. Thus, modulating BAFF-R activity using BAFF-R human recombinant may provide a targeted therapeutic approach for these conditions. Additionally, BAFF-R represents a potential target for B-cell malignancies, and BAFF-R human recombinant may serve as an adjuvant therapy in combination with existing treatments. Conclusion: BAFF-R human recombinant represents a crucial immunomodulatory target with diverse therapeutic applications in immunotherapy. Optimizing production methodologies and further understanding its signaling pathways will enhance its clinical utility. With its potential implications in autoimmune diseases and B-cell malignancies, BAFF-R human recombinant holds immense promise as an innovative therapeutic tool for immune-related disorders.

References for protein:

Bibliography: Mackay F, Browning JL. BAFF/BAFF-R signaling in B-cell homeostasis and autoimmune disease. *Curr Opin Immunol*. 2002;14(3):266-275. Bossen C, Schneider P. BAFF, APRIL and their receptors: structure, function and signaling. *Semin Immunol*. 2006;18(5):263-275. Hahne M, Kataoka T, Schroter M, et al. APRIL, a new ligand