9051 Mira Mesa Blvd, #910094
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TGFB1 Human Recombinant

Transforming Growth Factor-Beta 1 Human Recombinant
GRF0388

Product Overview

Name	TGFB1 Human Recombinant

Description

Transforming Growth Factor-Beta 1 Human Recombinant

Accession (Primary)	P01137

Synonyms

Transforming growth factor beta-1, TGF-beta-1, CED, DPD1, TGFB, TGF-b 1, TGFB1.

Introduction

Transforming growth factor betas (TGFBetas) mediate many cell-cell interactions that occur during embryonic development. Three TGFBetas have been identified in mammals. TGFBeta1, TGFBeta2 and TGFBeta3 are each synthesized as precursor proteins that are very similar in that each is cleaved to yield a 112 amino acid polypeptide that remains associated with the latent portion of the molecule. TGF-b 1 regulates the actions of numerous other growth factors involved in a variety of human diseases including renal disease, hepatic disease, heart failure and cardiomyopathies.

Source

Escherichia Coli.

Physical Appearance

Sterile Filtered clear solution.

Formulation

TGF-b 1 His-Tag protein is supplied in 25mM NaAcetate pH 4.8 and 50% glycerol.

Stability

Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. Please avoid freeze thaw cycles.

Purity

Greater than 95.0% as determined by SDS-PAGE.

Precautions

TGFB1 Human Recombinant is for research use only and not for use in diagnostic or therapeutic procedures.

Target Information: (P01137)

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Background

Title: Transforming Growth Factor-Beta 1 Human Recombinant: A Promising Tool for Biomedical Research Abstract: Transforming Growth Factor-Beta 1 (TGF-?1) is a crucial cytokine involved in diverse cellular processes. This research paper provides an in-depth analysis of human recombinant TGF-?1, focusing on its production, purification, and applications in biomedical research. The paper discusses the significance of TGF-?1 in tissue engineering, regenerative medicine, and immunology. Furthermore, it elucidates the potential therapeutic implications of recombinant TGF-?1 in various diseases and highlights ongoing research in the field. The information presented in this paper aims to enhance the understanding of TGF-?1 and its utility as a research tool in biomedical sciences. Introduction: Transforming Growth Factor-Beta 1 (TGF-?1) is a multifunctional cytokine that regulates cellular processes such as cell growth, differentiation, and immune modulation. Human recombinant TGF-?1 is synthesized using genetic engineering techniques, enabling the production of large quantities of biologically active protein for research purposes. Production and Purification: Recombinant TGF-?1 is typically produced in expression systems such as bacteria, yeast, or mammalian cells. The protein is then purified using various chromatographic techniques to obtain a highly pure and active form. Quality control measures ensure the biological activity and integrity of the recombinant protein. Biomedical Applications: Human recombinant TGF-?1 has found broad applications in biomedical research. In tissue engineering and regenerative medicine, it plays a critical role in promoting cell proliferation, extracellular matrix production, and tissue repair. TGF-?1 is also involved in immune modulation, influencing immune cell differentiation and function. Recombinant TGF-?1 is a valuable tool for studying these processes and developing therapeutic interventions. Therapeutic Implications: The dysregulation of TGF-?1 signaling is associated with various diseases, including fibrosis, cancer, and autoimmune disorders. Recombinant TGF-?1 offers potential therapeutic applications through its ability to modulate cellular responses. Ongoing research aims to develop targeted therapies that specifically regulate TGF-?1 signaling for the treatment of these conditions. Conclusion: Human recombinant TGF-?1 holds immense potential as a research tool in biomedical sciences. Its production, purification, and applications in tissue engineering, regenerative medicine, and immunology contribute to advancing our understanding of cellular processes and disease mechanisms. With ongoing research, recombinant TGF-?1 may pave the way for novel therapeutic strategies in various medical fields.

References for protein:

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