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IGFBP 5 Human

Insulin-Like Growth Factor Binding Protein-5 Human Recombinant
GRF0177

Product Overview

Name	IGFBP 5 Human

Description

Insulin-Like Growth Factor Binding Protein-5 Human Recombinant

Accession (Primary)	P24593

Synonyms

IBP-1, IGF-Binding Protein 1, AFBP, PP12, IGF-BP25, hIGFBP-1, IGFBP-1.

Source

HEK293 Cells.

Physical Appearance

Sterile Filtered colorless solution.

Formulation

The IGFBP1 solution (0.5mg/ml) contains 10% Glycerol and Phosphate-Buffered Saline (pH 7.4).

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. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.

Purity

Greater than 95.0% as determined by SDS-PAGE.

Amino acid sequence

APWQCAPCSA EKLALCPPVS ASCSEVTRSA GCGCCPMCAL PLGAACGVAT ARCARGLSCR ALPGEQQPLH ALTRGQGACV QESDASAPHA AEAGSPESPE STEITEEELL DNFHLMAPSE EDHSILWDAI STYDGSKALH VTNIKKWKEP CRIELYRVVE SLAKAQETSG EEISKFYLPN CNKNGFYHSR QCETSMDGEA GLCWCVYPWN GKRIPGSPEI RGDPNCQIYF NVQN.

Biological Activity

The ED50 is ?3 ug/ml, measured by its ability to inhibit proliferation using MCF-7 human breast cancer cells in the presence of Human IGF-1.

Background

IGFBP-1 (Insulin-like Growth Factor Binding Protein-1) is a vital protein that regulates the actions of insulin-like growth factors (IGFs) in various physiological processes. This research paper aims to investigate the structure, function, and

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potential therapeutic applications of IGFBP-1, shedding light on its diverse roles in growth regulation and its therapeutic potential. IGFBP-1 belongs to the IGFBP family and is primarily synthesized and secreted by the liver. It acts as a carrier protein, binding to IGFs in the bloodstream and modulating their availability and distribution to target tissues. By binding to IGFs, IGFBP-1 regulates IGF signaling pathways, influencing cellular growth, differentiation, and metabolism. The structure of IGFBP-1 comprises an N-terminal domain responsible for IGF binding, followed by linker regions and a C-terminal domain involved in protein-protein interactions. Post-translational modifications, including phosphorylation and glycosylation, further regulate the activity and stability of IGFBP-1. IGFBP-1 plays a pivotal role in modulating IGF actions in various tissues and physiological contexts. It is involved in fetal development, skeletal growth, and tissue repair. Additionally, IGFBP-1 has been implicated in metabolic regulation, insulin sensitivity, and the pathogenesis of metabolic disorders such as diabetes and obesity. Therapeutically, IGFBP-1 holds significant promise. Its ability to modulate IGF activity opens avenues for targeted therapies in conditions associated with dysregulated IGF signaling, including cancer. The dysregulation of the IGF pathway is frequently observed in cancer, making IGFBP-1 an attractive candidate for novel therapeutic approaches. Manipulating IGFBP-1 levels or developing IGFBP-1-derived peptides may offer innovative strategies for inhibiting tumor growth or enhancing the effectiveness of existing cancer therapies. The availability of IGFBP-1 human recombinant proteins has greatly facilitated research and development endeavors. Recombinant IGFBP-1 proteins provide invaluable tools for investigating the interactions between IGFBP-1, IGFs, and other regulatory molecules. They enable detailed exploration of the molecular mechanisms underlying IGFBP-1 function and offer opportunities to unlock its full therapeutic potential.

Precautions

IGFBP 5 Human is for research use only and not for use in diagnostic or therapeutic procedures.

Target Information: (P24593)