Recombinant Human IGFBP-3 Protein

Catalog No.: RP01363

Sequence Information

Species
Human

Gene ID
3486

Swiss Prot
P17936-1

Tags
C-His

Synonyms
IGFBP3,BP-53,IBP3

Product Information

Source
HEK293 cells

Purification
≥ 95 % as determined by SDS-PAGE.

Calculated MW
29.58 kDa

Observed MW
40-50 kDa

Endotoxin
< 1 EU/μg of the protein by LAL method.

Formulation
Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4.

Reconstitution
Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stablizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

Background

The Insulin-like Growth Factor (IGF) signaling system plays a central role in cellular growth, differentiation, and proliferation. IGFBP3 is the most abundant IGF binding protein in human serum and is a growth inhibitory, apoptosis-inducing molecule, capable of acting via IGF-dependent and IGF-independent mechanisms. It appears to function both by cell cycle blockade and the induction of apoptosis. IGFBP3 can be transported to the nucleus by an importin beta mediated mechanism, where it has been shown to interact with the retinoid X receptor alpha and possibly other nuclear elements. IGFBP3 antiproliferative signaling appears to require an active transforming growth factor-beta (TGF-beta) signaling pathway, and IGFBP3 stimulates phosphorylation of the TGF-beta signaling intermediates Smad2 and Smad3. IGFBP3 has IGF-independent roles in inhibiting cell proliferation in cancer cell lines. Nuclear transcription factor, retinoid X receptor (RXR)-alpha, and IGFBP3 functionally interact to reduce prostate tumor growth and prostate-specific antigen in vivo. Several clinical studies have proposed that individuals with IGFBP3 levels in the upper range of normal may have a decreased risk for certain common cancers. This includes evidence of a protective effect against breast cancer, prostate cancer, colorectal cancer, and lung cancer. Moreover, IGFBP3 inhibits insulin-stimulated glucose uptake into adipocytes independent of IGF.

Basic Information

Description
Recombinant Human IGFBP-3 Protein is produced by HEK293 cells expression system. The target protein is expressed with sequence (Gly28-Lys291) of human IGFBP3/BP-53 (Accession #NP_000589.2) fused with a 6×His tag at the C-terminus.

Activity
Measured by its binding ability in a functional ELISA. Immobilized Human IGFBP3 Protein at 1 μg/mL (100 μL/well) can bind IGF1 with a linear range of 0.158-23.05ng/mL.

Shipping
Lyophilized proteins are shipped at ambient temperature.
Liquid proteins are shipped at frozen temperature with dry ice.
Upon receipt, store it immediately at the temperature recommended below.

Storage
Store at -20℃

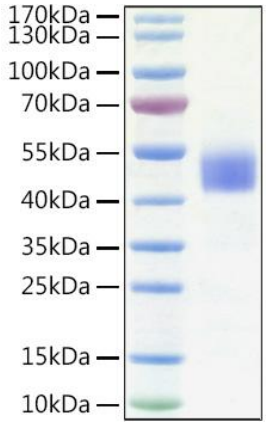
Operational Notes
For your safety and health, please wear a lab coat and disposable gloves for handling.

Contact

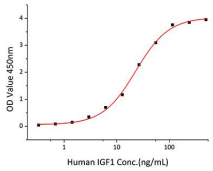
400-999-6126
cn.market@abclonal.com.cn
www.abclonal.com.cn

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Validation Data



Recombinant Human IGFBP-3 Protein was determined by SDS-PAGE under reducing conditions with Coomassie Blue.



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