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# Recombinant Human IGFBP-3 Protein

**Catalog No.: RP01363** Recombinant

## Sequence Information

| Species | Gene ID | Swiss Prot |
|---|---|---|
| Human | 3486 | P17936-1 |

**Tags**
C-His

**Synonyms**
IGFBP3;BP-53;IBP3

## Product Information

| Source | Purification |
|---|---|
| HEK293 cells | ≥ 95 % as determined by SDS-PAGE. |

| Calculated MW | Observed MW |
|---|---|
| 29.58 kDa | 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.

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## 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.

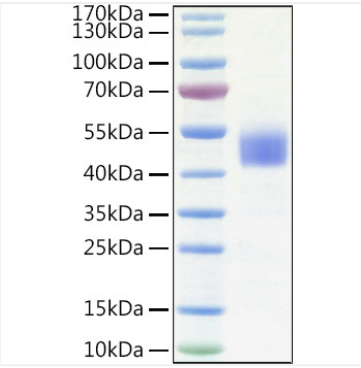
## Basic Information

**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.

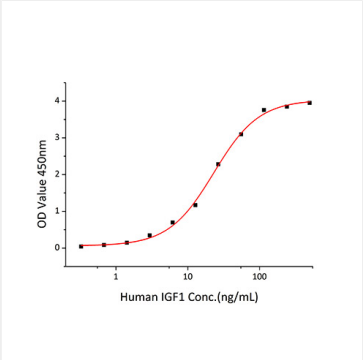
**Bio-Activity**
Measured by its binding ability in a functional ELISA. Immobilized Human IGFBP3 Protein at 1 μg/mL (100 μL/well) can bind IGF1 with a linear range of 0.158-23.05ng/mL.

**Storage**
Store at -20℃.Store the lyophilized protein at -20℃ to -80 ℃ up to 1 year from the date of receipt.
After reconstitution, the protein solution is stable at -20℃ for 3 months, at 2-8℃ for up to 1 week.
Avoid repeated freeze/thaw cycles.

## Validation Data




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

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