Sterile

#12568

Human $_{His6}$IGFBP2

- ☐ SC 10 µg (With Carrier)
- ☐ SF 10 µg (Carrier Free)
- ☐ LC 50 µg (With Carrier)
- ☐ LF 50 µg (Carrier Free)

Multi-milligram quantities available

New 12/13

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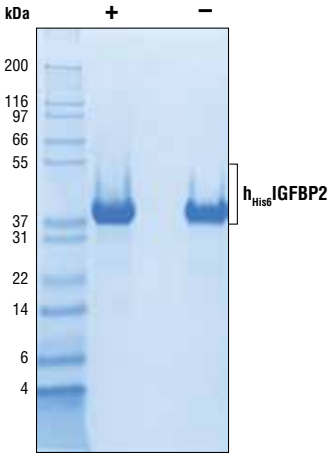
Source/Purification: Recombinant Human $_{His6}$IGFBP2 (h_{His6}IGFBP2) Glu40-Gln328 (Accession #NP_18065) was expressed in human 293 cells at Cell Signaling Technology.

Molecular Characterization: Recombinant amino-terminally His6-tagged hIGFBP2 has a calculated MW of 32,998 Da. DTT-reduced and nonreduced protein migrates as a 37 kDa polypeptide. The expected amino terminus of recombinant h_{His6}IGFBP2 was verified by amino acid sequencing.

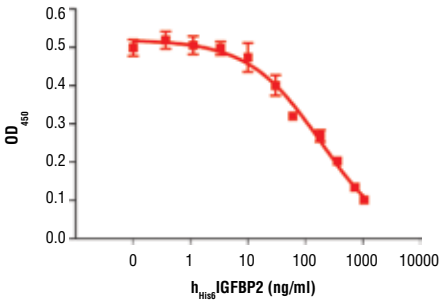
Endotoxin: Less than 0.01 ng endotoxin/1 µg h_{His6}IGFBP2.

Purity: >95% as determined by SDS-PAGE of 6 µg reduced (+) and nonreduced (-) recombinant h_{His}IGFBP2. All lots are greater than 95% pure.



The purity of recombinant h_{His6} IGFBP2 was determined by SDS-PAGE of 6 µg reduced (+) and nonreduced (-) recombinant h_{His6} IGFBP2 and staining overnight with Coomassie Blue.

Bioactivity: The bioactivity of h_{His6}IGFBP2 was determined by inhibition of IGF-I induced AKT phosphorylation in human dermal fibroblasts. The ED_{50} of each lot is between 0.1 and 0.5 µg/ml.



The inhibition of IGF-I induced Akt phosphorylation by h_{His6}IGFBP2. Human dermal fibroblasts were treated with Human Insulin-like Growth Factor I (hIGF-I) # 8917 in the presence or absence of increasing concentrations of h_{His6}IGFBP2 for 10 minutes, lysed, and Akt1 (Ser473) phosphorylation was quantified using the PathScan® Phospho-Akt1 (Ser473) Sandwich ELISA Kit #7160.

Formulation: With carrier: Lyophilized from a 0.22 µm filtered solution of h_{His6}IGFBP2 in 20 mM Tris, pH 7.2 containing 20 µg BSA per 1 µg h_{His6}IGFBP2.

Carrier free: Lyophilized from a 0.22 µm filtered solution of h_{His6}IGFBP2 in 20 mM Tris, pH 7.2.

Reconstitution: With carrier: Add sterile 20 mM Tris, pH 7.2 or 20 mM Tris, pH 7.2 containing 1% bovine or human serum albumin or 5-10% FBS to a final h_{His6}IGFBP2 concentration of greater than 50 µg/ml. Solubilize for 30 minutes at room temperature with occasional gentle vortexing.

Carrier free: Add sterile 20 mM Tris, pH 7.2 or 20 mM Tris, pH 7.2 containing protein to minimize absorption of h_{His6}IGFBP2 to surfaces. Solubilize for 30 minutes at room temperature with occasional gentle vortexing. Stock h_{His6}IGFBP2 should be greater than 50 µg/ml.

Storage: Stable in lyophilized state at 4°C for 1 year after receipt. Sterile stock solutions reconstituted with carrier protein are stable at 4°C for 2 months and at -20°C for 6 months. *Avoid repeated freeze-thaw cycles. Maintain sterility. Storage at -20°C should be in a manual defrost freezer.*

Applications: Optimal concentration for the desired application should be determined by the user.

Background: IGFBP2 is a multifunctional protein that plays a key role in the regulation of IGFI/II activity, cell proliferation, and cell adhesion (1,2). One of six high-affinity IGF binding proteins, IGFBP2 is the second most abundant IGFBP species in circulation (1). IGFBP2 can antagonize IGF signaling, or directly stimulate cell proliferation depending on context and cell type (1,2). Many of these effects are IGF independent (2). Elevated serum levels of IGFBP2 have been reported in a variety of cancers (1,2). IGFBP2 has been implicated in angiogenesis in a murine melanoma model (3).

Background References:

(1) Fukushima, T. and Kataoka, H. (2007) *Anticancer Res* 27, 3685-92.

(2) Hoeflich, A. et al. (2001) *Cancer Res* 61, 8601-10.

(3) Das, S.K. et al. (2013) *Cancer Res* 73, 844-54.

Applications Key: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide

Species Cross-Reactivity Key: **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **Dm**—D. melanogaster **X**—Xenopus **Z**—zebrafish **B**—bovine **Dg**—dog **Pg**—pig **Sc**—S. cerevisiae **Ce**—C. elegans **Hr**—horse **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.