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SANTA CRUZ BIOTECHNOLOGY, INC.

IGFBP5 (G-7): sc-515184

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Insulin-like growth factor-binding proteins (IGFBPs), a family of homologous proteins that have co-evolved with the IGFs, serve not only as shuttle molecules for the soluble IGFs, but also confer a level of regulation to the IGF signaling system. Physical association of the IGFBPs with IGF influences the bio-availability of the growth factors, and their concentration and distribution in the extracellular environment. The IGFBPs also appear to have biological activity independent of the IGFs. Seven IGFBPs have been described, each differing in their tissue distribution, half-lives and modulation of IGF interactions with their receptors. IGFBP1 is negatively regulated by Insulin production. The IGFBP1 gene is expressed at a high level during fetal liver development and in response to nutritional changes and diabetes. IGFBP2, which may function as a chaperone, escorting IGFs to their target tissues, is expressed in several human tissues including fetal eye and fetal brain. IGFBP3, the most abundant IGFBP, is complexed with roughly 80% of the serum IGFs. Both IGFBP3 and IGFBP4 are released by dermal fibroblasts in response to incision injury. IGFBP5 is secreted by myoblasts and may play a key role in muscle differentiation. IGFBP6 differs from other IGFBPs in having the highest affinity for IGF-II. Glycosylated human IGFBP6 is expressed in Chinese hamster ovary (CHO) cells, whereas non-glycosylated recombinant human IGFBP-6 is expressed in *E. coli*. IGFBP7, a secreted protein that binds both IGF-I and IGF-II with a relatively low affinity, stimulates prostacyclin production and may also function as a growth-suppressing factor.

REFERENCES

1. Lee, J., et al. 1994. Structure and localization of the IGFBP-1 gene and its expression during liver regeneration. Hepatology 19: 656-665.
2. Schmid, C. 1995. Insulin-like growth factors. Cell Biol. Int. 19: 445-457.
3. Binoux, M. 1995. The IGF system in metabolism regulation. Diabete Metab. 21: 330-337.
4. Baxter, R.C. 1995. Insulin-like growth factor binding proteins as gluco-regulators. Metabolism 44: 12-17.

CHROMOSOMAL LOCATION

Genetic locus: IGFBP5 (human) mapping to 2q35; Igfbp5 (mouse) mapping to 1 C3.

SOURCE

IGFBP5 (G-7) is a mouse monoclonal antibody raised against amino acids 81-180 of IGFBP5 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IGFBP5 (G-7) is available conjugated to HRP (sc-515184 HRP), 200 µg/ml, for WB, IHC(P) and ELISA.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

IGFBP5 (G-7) is recommended for detection of precursor and mature IGFBP5 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for IGFBP5 siRNA (h): sc-39591, IGFBP5 siRNA (m): sc-39592, IGFBP5 shRNA Plasmid (h): sc-39591-SH, IGFBP5 shRNA Plasmid (m): sc-39592-SH, IGFBP5 shRNA (h) Lentiviral Particles: sc-39591-V and IGFBP5 shRNA (m) Lentiviral Particles: sc-39592-V.

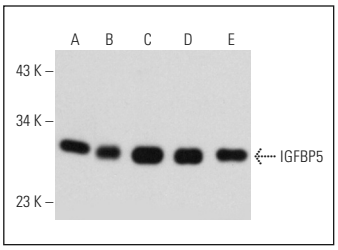
Molecular Weight of IGFBP5: 30 kDa.

Positive Controls: IGFBP5 (h): 293 Lysate: sc-111040, L8 cell lysate: sc-3807 or KNRK whole cell lysate: sc-2214.

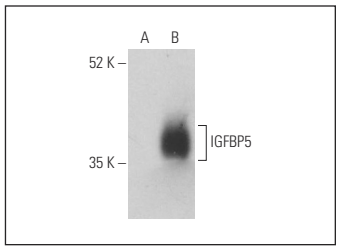
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



IGFBP5 (G-7): sc-515184. Western blot analysis of IGFBP5 expression in Hep G2 (**A**), Sol8 (**B**), RAW 264.7 (**C**), KNRK (**D**) and L8 (**E**) whole cell lysates.



IGFBP5 (G-7): sc-515184. Western blot analysis of IGFBP5 expression in non-transfected: sc-110760 (**A**) and human IGFBP5 transfected: sc-111040 (**B**) 293 whole cell lysates. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.

SELECT PRODUCT CITATIONS

1. Dong, C., et al. 2020. IGFBP5 increases cell invasion and inhibits cell proliferation by EMT and Akt signaling pathway in glioblastoma multiforme cells. Cell Div. 15: 4.
2. Chen, H., et al. 2022. Dissecting heterogeneity reveals a unique $BAMBI^{high}$ $MFGE8^{high}$ subpopulation of human UC-MSCs. Adv. Sci. E-published.

RESEARCH USE

For research use only, not for use in diagnostic procedures.