SANTA CRUZ BIOTECHNOLOGY, INC.

IGFBP4 (A3): sc-517440

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 IGFBP1 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. Diabetes Metabol. 21: 330-337.
4. Baxter, R.C. 1995. Insulin-like growth factor binding proteins as glucoregulators. Metabol. Clin. Exp. 44: 12-17.
5. Kelley, K.M., et al. 1996. Insulin-like growth factor-binding proteins (IGFBPs) and their regulatory dynamics. Int. J. Biochem. Cell Biol. 28: 619-637.

CHROMOSOMAL LOCATION

Genetic locus: IGFBP4 (human) mapping to 17q21.2.

SOURCE

IGFBP4 (A3) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 22-258 of IGFBP4 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with 50% glycerol.

STORAGE

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

APPLICATIONS

IGFBP4 (A3) is recommended for detection of IGFBP4 of human origin by Western Blotting (starting dilution 1:200, 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), immunohistochemistry (including paraffin-embedded sections) (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 IGFBP4 siRNA (h): sc-39589, IGFBP4 shRNA Plasmid (h): sc-39589-SH and IGFBP4 shRNA (h) Lentiviral Particles: sc-39589-V.

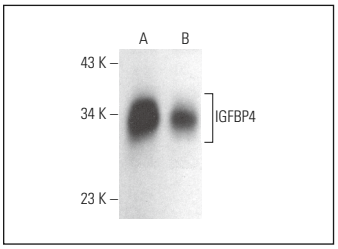
Molecular Weight of IGFBP4: 34 kDa.

Positive Controls: WI-38 whole cell lysate: sc-364260 or MDA-MB-231 cell lysate: sc-2232.

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



IGFBP4 (A3): sc-517440. Western blot analysis of IGFBP4 expression in WI-38 (**A**) and MDA-MB-231 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Itoh, G., et al. 2022. Cancer-associated fibroblasts educate normal fibroblasts to facilitate cancer cell spreading and T cell suppression. Mol. Oncol. 16: 166-187.

RESEARCH USE

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