SANTA CRUZ BIOTECHNOLOGY, INC.

IGFBP4 (H-85): sc-13092

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The insulin-like growth factor-binding proteins, or IGFBPs, are a family of homologous proteins that have co-evolved with the IGFs. They 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, as well as their concentration and distribution in the extracellular environment. In addition, the IGFBPs appear to have biological activity independent of the IGFs. Seven IGFBPs have thus far been described, each differing in their tissue distribution, half-lives and modulation of IGF interactions with their receptors. For instance, 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. It has been suggested that IGFBP2 functions as chaperone, escorting IGFs to their target tissues. It is expressed in several human tissues including fetal eye and fetal brain. IGFBP3 is the most abundant IGFBP and 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 nonglycosylated recombinant human IGFBP6 is expressed in *E. coli*. IGFBP7 is a secreted protein and binds both IGF-I and IGF-II with a relatively low affinity. It 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 Metab. 21: 330-337.

CHROMOSOMAL LOCATION

Genetic locus: IGFBP4 (human) mapping to 17q21.2; Igfbp4 (mouse) mapping to 11 D.

SOURCE

IGFBP4 (H-85) is a rabbit polyclonal antibody raised against amino acids 95-180 of IGFBP4 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

RESEARCH USE

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

APPLICATIONS

IGFBP4 (H-85) is recommended for detection of precursor and mature IGFBP4 of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

IGFBP4 (H-85) is also recommended for detection of precursor and mature IGFBP4 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for IGFBP4 siRNA (h): sc-39589, IGFBP4 siRNA (m): sc-39590, IGFBP4 shRNA Plasmid (h): sc-39589-SH, IGFBP4 shRNA Plasmid (m): sc-39590-SH, IGFBP4 shRNA (h) Lentiviral Particles: sc-39589-V and IGFBP4 shRNA (m) Lentiviral Particles: sc-39590-V.

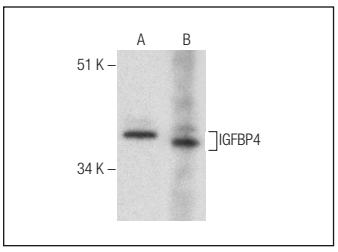
Molecular Weight of IGFBP4: 34 kDa.

Positive Controls: mouse liver extract: sc-2256, mouse ovary extract: sc-2404 or rat ovary extract: sc-2399.

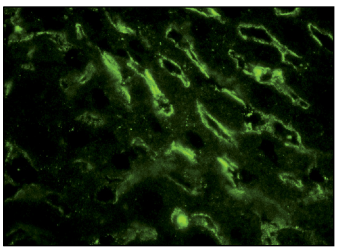
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



IGFBP4 (H-85): sc-13092. Western blot analysis of IGFBP4 expression in mouse ovary (**A**) and rat ovary (**B**) tissue extracts.



IGFBP4 (H-85): sc-13092. Immunofluorescence staining of normal mouse liver frozen section showing extracellular staining.

SELECT PRODUCT CITATIONS

1. Ruttenstock, E.M., et al. 2011. IGFBP-4 gene overexpression in the nitrofen-induced hypoplastic lung. Eur. J. Pediatr. Surg. 21: 42-45.
2. Wieteska-Skrzeczynska, W., et al. 2011. Growth factor and cytokine interactions in myogenesis. Part II. Expression of IGF binding proteins and protein kinases essential for myogenesis in mouse C2C12 myogenic cells exposed to TNF-α and IFN-γ. Pol. J. Vet. Sci. 14: 425-431.