SANTA CRUZ BIOTECHNOLOGY, INC.

IGFBP7 (H-102): sc-13095

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 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 IGFBP-6 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: IGFBP7 (human) mapping to 4q12; Igfbp7 (mouse) mapping to 5 C3.3.

SOURCE

IGFBP7 (H-102) is a rabbit polyclonal antibody raised against amino acids 181-282 of IGFBP7 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

IGFBP7 (H-102) is recommended for detection of precursor and mature IGFBP7 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), 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).

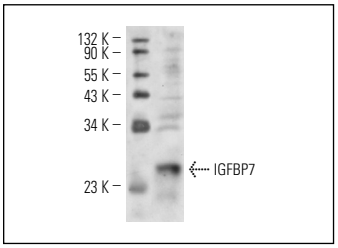
IGFBP7 (H-102) is also recommended for detection of precursor and mature IGFBP7 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for IGFBP7 siRNA (h): sc-39593, IGFBP7 siRNA (m): sc-39594, IGFBP7 shRNA Plasmid (h): sc-39593-SH, IGFBP7 shRNA Plasmid (m): sc-39594-SH, IGFBP7 shRNA (h) Lentiviral Particles: sc-39593-V and IGFBP7 shRNA (m) Lentiviral Particles: sc-39594-V.

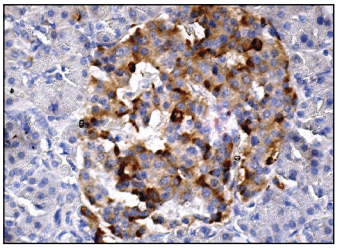
Molecular Weight of IGFBP7: 29 kDa.

Positive Controls: MIA PaCa-2 cell lysate: sc-2285, mouse kidney extract: sc-2255 or rat kidney extract: sc-2394.

DATA



IGFBP7 (H-102): sc-13095. Western blot analysis of IGFBP7 expression in rat kidney tissue extract.



IGFBP7 (H-102): sc-13095. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of Islets of Langerhans.

SELECT PRODUCT CITATIONS

1. Tamura, K., et al. 2007. Effect of Insulin-like growth factor-binding protein 7 on steroidogenesis in granulosa cells derived from equine chorionic gonadotropin-primed immature rat ovaries. Biol. Reprod. 77: 485-491.
2. Piccaluga, P.P., et al. 2007. Gene expression analysis of peripheral T cell lymphoma, unspecified, reveals distinct profiles and new potential therapeutic targets. J. Clin. Invest. 117: 823-834.
3. Liu, Z.K., et al. 2012. Insulin-like growth factor binding protein 7 modulates estrogen-induced trophoblast proliferation and invasion in HTR-8 and JEG-3 cells. Cell Biochem. Biophys. 63: 73-84.