SANTA CRUZ BIOTECHNOLOGY, INC.

IGFBP1 (M-19): sc-6000

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.

CHROMOSOMAL LOCATION

Genetic locus: IGFBP1 (human) mapping to 7p12.3; Igfbp1 (mouse) mapping to 11 A1.

SOURCE

IGFBP1 (M-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of IGFBP1 of mouse origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-6000 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

IGFBP1 (M-19) is recommended for detection of precursor and mature IGFBP1 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). Suitable for use as control antibody for IGFBP1 siRNA (h): sc-39584, IGFBP1 siRNA (m): sc-39585, IGFBP1 shRNA Plasmid (h): sc-39584-SH, IGFBP1 shRNA Plasmid (m): sc-39585-SH, IGFBP1 shRNA (h) Lentiviral Particles: sc-39584-V and IGFBP1 shRNA (m) Lentiviral Particles: sc-39585-V.

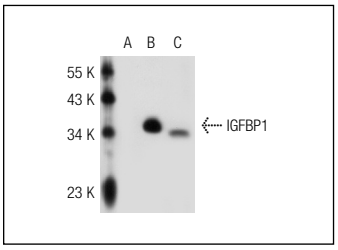
Molecular Weight of IGFBP1: 36 kDa.

Positive Controls: IGFBP1 (m): 293T Lysate: sc-125485.

STORAGE

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

DATA



IGFBP1 (M-19): sc-6000. Western blot analysis of IGFBP1 expression in non-transfected 293T: sc-117752 (**A**), mouse IGFBP1 transfected 293T: sc-125485 (**B**) and Hep G2 (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Lavoie, J.M., et al. 2002. Evidence that the decrease in liver glycogen is associated with the exercise-induced increase in IGFBP1. J. Appl. Physiol. 93: 798-804; discussion 797.
2. Leu, J.I., et al. 2003. Massive hepatic apoptosis associated with TGFβ1 activation after FAS ligand treatment of IGF binding protein-1-deficient mice. J. Clin. Invest. 111: 129-139.
3. tom Dieck, H., et al. 2003. Changes in rat hepatic gene expression in response to zinc deficiency as assessed by DNA arrays. J. Nutr. 133: 1004-1010.
4. Niedernhofer, L.J., et al. 2006. A new progeroid syndrome reveals that genotoxic stress suppresses the somatotroph axis. Nature 444: 1038-1043.
5. Li, C., et al. 2007. The IGF axis in baboon pregnancy: placental and systemic responses to feeding 70% global ad libitum diet. Placenta 28: 1200-1210.
6. Fardini, Y., et al. 2013. O-GlcNAcylation of FoxO1 in pancreatic β cells promotes Akt inhibition through an IGFBP1-mediated autocrine mechanism. FASEB J. E-published.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.