SANTA CRUZ BIOTECHNOLOGY, INC.

IGFBP1 (H-5): sc-55474

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.

CHROMOSOMAL LOCATION

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

SOURCE

IGFBP1 (H-5) is a mouse monoclonal antibody raised against amino acids 121-240 of IGFBP1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IGFBP1 (H-5) is available conjugated to agarose (sc-55474 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-55474 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-55474 PE), fluorescein (sc-55474 FITC), Alexa Fluor® 488 (sc-55474 AF488), Alexa Fluor® 546 (sc-55474 AF546), Alexa Fluor® 594 (sc-55474 AF594) or Alexa Fluor® 647 (sc-55474 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-55474 AF680) or Alexa Fluor® 790 (sc-55474 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

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

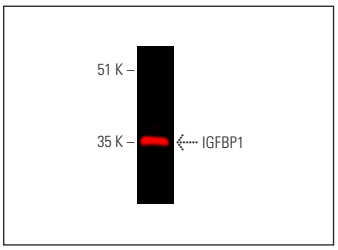
IGFBP1 (H-5) is recommended for detection of IGFBP1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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 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.

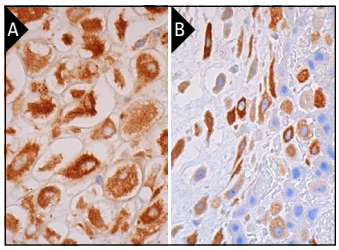
Molecular Weight of IGFBP1: 36 kDa.

Positive Controls: human placenta extract: sc-363772, rat liver extract: sc-2395 or MIA PaCa-2 cell lysate: sc-2285.

DATA



IGFBP1 (H-5): sc-55474. Near-infrared western blot analysis of IGFBP1 expression in human placenta tissue extract. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.



IGFBP1 (H-5): sc-55474. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of decidual cells (**A**). IGFBP1 (H-5) HRP: sc-55474 HRP. Direct immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of decidual cells. Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214 (**B**).

SELECT PRODUCT CITATIONS

1. Sánchez-Quiles, V., et al. 2010. Prohibitin deficiency blocks proliferation and induces apoptosis in human hepatoma cells: molecular mechanisms and functional implications. Proteomics 10: 1609-1620.
2. Yang, Z.S., et al. 2021. Regulation and function of laminin A5 during mouse and human decidualization. Int. J. Mol. Sci. 23: 199.
3. Oh, J.H., et al. 2022. Discovery of dipeptidyl peptidase-4 inhibitor specific biomarker in NAFLD mouse models using modified basket trial. Clin. Mol. Hepatol. 28: 497-509.
4. Chen, L., et al. 2023. Synergy of 5-aminolevulinate supplement and CX3CR1 suppression promotes liver regeneration via elevated IGF-1 signaling. Cell Rep. 42: 112984.

PROTOCOLS

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