SANTA CRUZ BIOTECHNOLOGY, INC.

IGFBP3 (B-5): sc-365936

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: IGFBP3 (human) mapping to 7p12.3; Igfbp3 (mouse) mapping to 11 A1.

SOURCE

IGFBP3 (B-5) is a mouse monoclonal antibody raised against amino acids 113-210 of IGFBP3 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IGFBP3 (B-5) is available conjugated to agarose (sc-365936 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365936 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365936 PE), fluorescein (sc-365936 FITC), Alexa Fluor® 488 (sc-365936 AF488), Alexa Fluor® 546 (sc-365936 AF546), Alexa Fluor® 594 (sc-365936 AF594) or Alexa Fluor® 647 (sc-365936 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365936 AF680) or Alexa Fluor® 790 (sc-365936 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

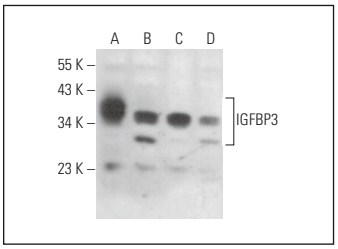
IGFBP3 (B-5) is recommended for detection of precursor and mature IGFBP3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 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 IGFBP3 siRNA (h): sc-39587, IGFBP3 siRNA (m): sc-39588, IGFBP3 shRNA Plasmid (h): sc-39587-SH, IGFBP3 shRNA Plasmid (m): sc-39588-SH, IGFBP3 shRNA (h) Lentiviral Particles: sc-39587-V and IGFBP3 shRNA (m) Lentiviral Particles: sc-39588-V.

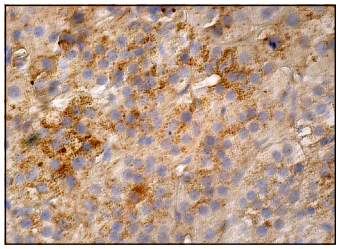
Molecular Weight of IGFBP3 isoforms: 40/44 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, Hep G2 cell lysate: sc-2227 or U-2 OS cell lysate: sc-2295.

DATA



IGFBP3 (B-5): sc-365936. Western blot analysis of IGFBP3 expression in Hep G2 (**A**), MCF7 (**B**), U-2 OS (**C**) and NCI-H929 (**D**) whole cell lysates.



IGFBP3 (B-5): sc-365936. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Jäger, W., et al. 2015. Patient-derived bladder cancer xenografts in the preclinical development of novel targeted therapies. Oncotarge 6: 21522-21532.
2. Valadez-Bustos, N., et al. 2019. Oral administration of microencapsulated *B. Longum* BAA-999 and lycopene modulates IGF-1/IGF-1R/IGFBP3 protein expressions in a colorectal murine model. Int. J. Mol. Sci. 20: 4275.
3. Vassilieva, I., et al. 2020. Paracrine senescence of human endometrial mesenchymal stem cells: a role for the Insulin-like growth factor binding protein 3. Aging 12: 1987-2004.
4. Lomas-Soria, C., et al. 2021. Sexual dimorphism in liver cell cycle and senescence signaling pathways in young and old rats. J. Physiol. 599: 4309-4320.
5. Fang, Y., et al. 2022. Age-related GSK3β overexpression drives podocyte senescence and glomerular aging. J. Clin. Invest. 132: e141848.
6. Park, J.J., et al. 2024. FRMD6 determines the cell fate towards senescence: involvement of the Hippo-YAP-CCN3 axis. Cell Death Differ. 31: 1398-1409.

PROTOCOLS

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