

IGFBP3 (H-98): sc-9028

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.

CHROMOSOMAL LOCATION

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

SOURCE

IGFBP3 (H-98) is a rabbit polyclonal antibody raised against amino acids 113-210 of IGFBP3 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.

APPLICATIONS

IGFBP3 (H-98) is recommended for detection of precursor and mature IGFBP3 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).

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.

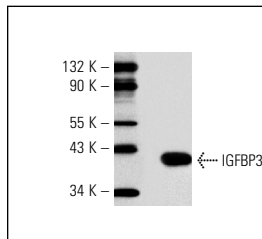
Molecular Weight of IGFBP3 isoforms: 40/44 kDa.

Positive Controls: MIA PaCa-2 cell lysate: sc-2285.

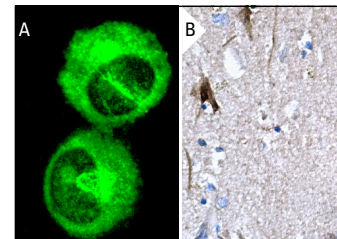
STORAGE

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

DATA



IGFBP3 (H-98): sc-9028. Western blot analysis of human recombinant IGFBP3.



IGFBP3 (H-98): sc-9028. Immunofluorescence staining of methanol-fixed MIA PaCa-2 cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human brain tissue showing cytoplasmic staining of neuronal cells (B).

SELECT PRODUCT CITATIONS

1. Botchkarev, V.A., et al. 2001. p53 Involvement in the control of murine hair follicle regression. *Am. J. Pathol.* 158: 1913-1919.
2. Chiou, W.F., et al. 2010. Abnormal protein expression in the corpus cavernosum impairs erectile function in type 2 diabetes. *BJU Int.* 105: 674-680.
3. Santosh, V., et al. 2010. Grade-specific expression of Insulin-like growth factor-binding proteins-2, -3, and -5 in astrocytomas: IGFBP-3 emerges as a strong predictor of survival in patients with newly diagnosed glioblastoma. *Cancer Epidemiol. Biomarkers Prev.* 19: 1399-1408.
4. Fan, L., et al. 2010. Z proteins of new world arenaviruses bind RIG-I and interfere with type I interferon induction. *J. Virol.* 84: 1785-1791.
5. Canale-Zambrano, J.C., et al. 2011. IGF binding protein-3 treatment alters intestinal cell proliferation but not body weight of adult cystic fibrosis transmembrane conductance regulator deficient mice. *Pediatr. Res.* 69: 129-134.
6. Wang, L., et al. 2012. Homeobox D10 gene, a candidate tumor suppressor, is downregulated through promoter hypermethylation and associated with gastric carcinogenesis. *Mol. Med.* 18: 389-400.
7. Kulkarni, A., et al. 2012. Expression pattern and prognostic significance of IGFBP isoforms in anaplastic astrocytoma. *Pathol. Oncol. Res.* 18: 961-967.

RESEARCH USE

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


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