

IGFBP3 (E-9): sc-374365

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.

SOURCE

IGFBP3 (E-9) is a mouse monoclonal antibody raised against amino acids 113-210 of IGFBP3 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IGFBP3 (E-9) is available conjugated to agarose (sc-374365 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374365 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374365 PE), fluorescein (sc-374365 FITC), Alexa Fluor® 488 (sc-374365 AF488), Alexa Fluor® 546 (sc-374365 AF546), Alexa Fluor® 594 (sc-374365 AF594) or Alexa Fluor® 647 (sc-374365 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374365 AF680) or Alexa Fluor® 790 (sc-374365 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

PROTOCOLS

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

APPLICATIONS

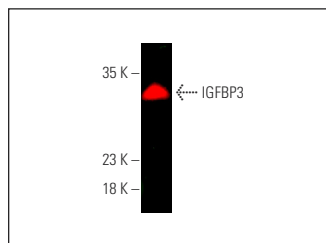
IGFBP3 (E-9) is recommended for detection of precursor and mature IGFBP3 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) 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 shRNA Plasmid (h): sc-39587-SH and IGFBP3 shRNA (h) Lentiviral Particles: sc-39587-V.

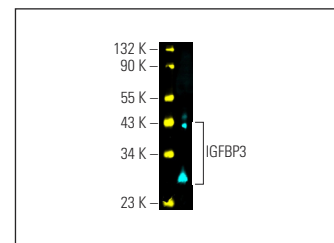
Molecular Weight of IGFBP3 isoforms: 40/44 kDa.

Positive Controls: MIA PaCa-2 cell lysate: sc-2285 or human plasma extract: sc-364374.

DATA



IGFBP3 (E-9): sc-374365. Near-infrared western blot analysis of IGFBP3 in human plasma. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκc BP-CFL 790: sc-516181.



IGFBP3 (E-9) Alexa Fluor® 647: sc-374365 AF647. Direct fluorescent western blot analysis of IGFBP3 in human plasma. Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker™ MW Tag-Alexa Fluor® 488: sc-516790.

SELECT PRODUCT CITATIONS

- McKeown, A.S., et al. 2016. Signalling beyond photon absorption: extra-cellular retinoids and growth factors modulate rod photoreceptor sensitivity. *J. Physiol.* 594: 1841-1854.
- Price, D., et al. 2020. Humanin blocks aggregation of Amyloid β induced by acetylcholinesterase, an effect abolished in the presence of IGFBP-3. *Biochemistry* 59: 1981-2002.
- Wang, S., et al. 2021. Single-cell transcriptomics reveals the molecular anatomy of sheep hair follicle heterogeneity and wool curvature. *Front. Cell Dev. Biol.* 9: 800157.
- Liu, X., et al. 2022. SALIS transcriptionally represses IGFBP3/Caspase-7-mediated apoptosis by associating with Stat5a to promote hepatocellular carcinoma. *Cell Death Dis.* 13: 642.
- Zhang, M., et al. 2023. Dynamic expression of IGFBP3 modulate dual actions of mineralization micro-environment during tooth development via Wnt/β-catenin signaling pathway. *Biol. Direct* 18: 34.

RESEARCH USE

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