

## IGFBP6 (M-20): sc-6008

### 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.

### REFERENCES

- Lee, J., et al. 1994. Structure and localization of the IGFBP-1 gene and its expression during liver regeneration. *Hepatology* 19:656-65.
- Schmid, C. 1995. Insulin-like growth factors. *Cell Biol. Intl.* 19: 445-457.
- Binoux, M. 1995. The IGF system in metabolism regulation. *Diabetes Metabol.* 21: 330-337.
- Baxter, R.C. 1995. Insulin-like growth factor binding proteins as glucoregulators. *Metabol. Clin. Exp.* 44: 12-17.
- Kelley, K.M., et al. 1996. Insulin-like growth factor-binding proteins (IGFBPs) and their regulatory dynamics. *Intl. J. Biochem. Cell Biol.* 28: 619-637.
- Hathaway, C.L., et al. 1996. Differential expression of IGFBPs by normal and hypertrophic scar fibroblasts. *J. Surg. Res.* 60: 156-162.
- Oh, Y., et al. 1996. Synthesis and characterization of Insulin-like growth factor-binding protein (IGFBP)-7. Recombinant human mac25 protein specifically binds IGF-I and -II. *J. Biol. Chem.* 271: 30322-30325.

### CHROMOSOMAL LOCATION

Genetic locus: IGFBP6 (mouse) mapping to 15 F3.

### SOURCE

IGFBP6 (M-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of IGFBP6 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-6008 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

IGFBP6 (M-20) is recommended for detection of precursor and mature IGFBP6 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 IGFBP6 siRNA (m): sc-37232, IGFBP6 shRNA Plasmid (m): sc-37232-SH and IGFBP6 shRNA (m) Lentiviral Particles: sc-37232-V.

Molecular Weight of IGFBP6: 29 kDa.

Positive Controls: Human kidney tumor.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotting A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### SELECT PRODUCT CITATIONS

- Götz, W., et al. 2003. Immunohistochemical localization of Insulin-like growth factor-II and its binding protein-6 in human epithelial cells of Malassez. *Eur. J. Oral Sci.* 111: 26-33.
- Suzuki, Y., et al. 2005. Distinct expression pattern of Insulin-like growth factor family in rodent taste buds. *J. Comp. Neurol.* 482: 74-84.
- Hajjar, D., et al. 2006. Mandibular repositioning modulates IGFBP-3, -4, -5 and -6 expression in the mandibular condylar cartilage of young rats. *Biorheology* 43: 311-321.
- Wieteska-Skrzeczynska, W., et al. 2011. Growth factor and cytokine interactions in myogenesis. Part II. Expression of IGF binding proteins and protein kinases essential for myogenesis in mouse C2C12 myogenic cells exposed to TNF-α and IFN-γ. *Pol. J. Vet. Sci.* 14: 425-431.

### 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.