

IGFBP2 (1-75): sc-4461 WB

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, IGFBP-1 is negatively regulated by insulin production. The IGFBP-1 gene is expressed at a high level during fetal liver development and in response to nutritional changes and diabetes. The 1.4 kDa IGFBP-2 has been suggested to function as chaperone, escorting IGFs to their target tissues. It is expressed in several human tissues including fetal eye and fetal brain. IGFBP-3 is the most abundant IGFBP and is complexed with roughly 80% of the serum IGFs. Both IGFBP-3 and IGFBP-4 are released by dermal fibroblasts in response to incision injury. IGFBP-5 is secreted by myoblasts and may play a key role in muscle differentiation. IGFBP-6 differs from other IGFBPs in having the highest affinity for IGF-II. Glycosylated human IGFBP-6 is expressed in Chinese hamster ovary (CHO) cells, whereas nonglycosylated recombinant human IGFBP-6 is expressed in *E.coli*. IGFBP-7 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

1. Lee, J., et al. 1994. Structure and localization of the IGFBP-1 gene and its expression during liver regeneration. *Hepatology* 19:656-65.
2. Schmid, C. 1995. Insulin-like growth factors. *Cell Biol. Intl.* 19: 445-457.
3. Binoux, M. 1995. The IGF system in metabolism regulation. *Diabetes Metabol.* 21: 330-337.
4. Baxter, R.C. 1995. Insulin-like growth factor binding proteins as glucoregulators. *Metabol. Clin. Exp.* 44: 12-17.
5. 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.
6. Hathaway, C.L., et al. 1996. Differential expression of IGFBPs by normal and hypertrophic scar fibroblasts. *J. Surg. Res.* 60: 156-162.
7. 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: IGFBP2 (human) mapping to 2q33-q34; Igfbp2 (mouse) mapping to 1 C3.

SOURCE

IGFBP2 (1-75) is expressed in *E. coli* as a 35 kDa tagged fusion protein corresponding to amino acids 1-75 of IGFBP2 of human origin.

PRODUCT

IGFBP2 (1-75) is purified from bacterial lysates (>98%) by glutathione agarose affinity chromatography; supplied as 10 µg in 0.1 ml SDS-PAGE loading buffer.

APPLICATIONS

IGFBP2 (1-75) is suitable as a Western blotting control for sc-13096.

STORAGE

Store at -20° C; stable for one year from the date of shipment.

RESEARCH USE

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