



Product Information

INSULIN-LIKE GROWTH FACTOR BINDING PROTEIN-1 (IGFBP-1) Human

Product No. I 0524

Product Description

The insulin-like growth factor binding proteins (IGFBP's) bind IGF-I and IGF-II with very high affinity (10^{-9} to $10^{-10}M^{-1}$). Four principle functions have been proposed for IGF binding proteins^{1,2}:

1. To restrict IGF efflux from the vascular space (principally performed by IGFBP-3).
2. To provide a transport vehicle for IGF-I and IGF-II and possibly regulate their rate of transport across intact capillary beds.
3. To control the distribution of IGF's to specific cell types and possible to specific receptor types.
4. To control IGF action at the cellular level by either restricting or augmenting their access to receptors.

Insulin-Like Growth Factor Binding Protein-1 (IGFBP-1) is a protein of approximately 30 kD that can be phosphorylated on serine residues to varying degrees,³ with the principle site of phosphorylation at serine 104.⁴ The degree of phosphorylation is important, as the affinity of IGFBP-1 to IGF increases with the degree of phosphorylation.^{5,6} IGFBP-1 has both stimulatory and inhibitory effects on IGF-induced DNA synthesis, with these effects apparently tied to the degree of phosphorylation.²

Performance Characteristics

The biological activity of IGFBP-1 is measured by its ability to bind radiolabelled IGF in a competitive assay. One unit of activity is defined as the amount of IGFBP-1 that binds 1 ng of IGF at a concentration of 10 ng IGF/ml at 25 °C, pH 6.0.

Product Information

Purified from conditioned medium from human HepG2 cells

Molecular Weight: approx. 30 kD

Purity: approx. 90% as determined by SDS-PAGE

Activity: ≥ 200 units/vial

Package Size: 10 μ g

Formulation: 0.2 μ m-filtered solution in 20 mM Tris, 150 mM NaCl, pH 7.4.

Sterility: 0.2 μ m-filtered, aseptic fill

Storage

Store at -20 °C. For extended storage, freeze in working aliquots at -20 °C. Repeated freezing and thawing is not recommended.

References

1. Baxter, R. and Martin, J., Progress in Growth Factor Research, **1**, 49 (1989).
2. Clemmons, D., Growth Regulation, **2**, 80 (1992).
3. Frost, R. and Cheng, L., J. Biol. Chem., **266**, 18082 (1991).
4. Jones, J., et al., J. Biol. Chem., **268**, 1125 (1993).
5. Jones, J., et al., Proc. Nat. Acad. Sci. USA, **88**, 7481 (1991).
6. Koistinen, R., et al., Clinica Chimica Acta, **215**, 189 (1993).

BIOHAZARD: Handle as if capable of transmitting infectious agents. Refer to MSDS.

Source material tested and found negative for antibody to HIV and HbsAG.

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