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Product Information

Insulin-Like Growth Factor Binding Protein-2
mouse, recombinant
expressed in mouse NSO cells

Catalog Number **I3657**
Storage Temperature –20 °C

Synonym: IGFBP-2

Product Description
Insulin-like Growth Factor Binding Protein-2 is a member of the superfamily of insulin-like growth factor (IGF) binding proteins which include six high-affinity IGF binding proteins (IGFBP) and at least four low-affinity binding proteins referred to as IGFBP related proteins (IGFBP-rP). The IGFBP members are cysteine-rich proteins with conserved cysteine residues, clustered in the N-terminal and the C-terminal regions of the molecule. IGFBP-2 has an integrin receptor recognition sequence (RGD) and lacks potential N-linked glycosylation sites.

IGFBPs hold a central position in IGF ligand-receptor interactions through influences on both the bioavailability and distribution of IGFs in the extracellular environment.[1] IGFBPs will either inhibit or enhance the biological activities of IGF or act in an IGF-independent manner. Post-translational modification of IGFBPs, including phosphorylation and proteolysis, will modify the affinities of the binding proteins for IGF and may indirectly regulate IGF actions.

Insulin-like growth factors (IGFs) and IGF binding proteins (IGFBPs) play an important role in cell growth and differentiation. They are involved in assessing growth-related abnormalities and risks in certain types of cancer.[2] Insulin-like growth factor II (IGF-II) has a major role in adrenocortical tumorigenesis and IGFBP-2 is a regulator of IGF-II proliferative effects in this tumor system.[3]

Insulin-like growth factor binding protein-2 is expressed in multiple tissues during development. The highest expression level is found in the central nervous system. In adults, high expression levels are detected in the central nervous system and various reproductive tissues. Mouse and human IGFBP-2 share ~82% amino acid sequence identity. IGFBP-2 exhibits a 2–10 fold higher affinity for IGF-II than for IGF-1.[1]

This recombinant, mouse Insulin-like Growth Factor Binding Protein-2 product is produced from a DNA sequence encoding full length mouse IGFBP-2 protein.[4,5] It is lyophilized from a 0.2 μm filtered solution of 35% acetonitrile and 0.1% TFA.

Insulin-like growth factor binding protein-2 is measured by its ability to inhibit the biological activity of recombinant mouse IGF-II on MCF-7 cells.[6] The ED_{50} for this effect is typically 0.125–0.5 μg/ml in the presence of 30 ng/ml recombinant mouse IGF-II. The ED_{50} is defined as the effective concentration of growth factor that elicits a 50% increase in cell growth in a cell based bioassay.

Mature mouse IGFBP-2 has a calculated molecular mass of 29 kDa. The recombinant protein migrates as an ~35 kDa protein in SDS-PAGE under reducing conditions.

Purity: ≥95% (SDS-PAGE, visualized by silver stain)

Endotoxin level is <1.0 endotoxin units/μg of cytokine
[LAL (Limulus amebocyte lysate) method]

Precautions and Disclaimer
This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions
Reconstitute the contents of the vial using sterile phosphate buffered saline (PBS) containing at least 0.1% human serum albumin or bovine serum albumin. Prepare a stock solution of ≥10 μg/ml.

Storage/Stability
Store the product at –20 °C. Upon reconstitution, store at 2–8 °C for one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Do not store in a frost-free freezer.

References

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3. Boulle, N., et al., J. Clin. Endocrinol. Metab., **83**, 1713-1720 (1998).
4. Schuller, A.G.P., et al., Mol. Cell. Endoc., **104**, 57-66 (1994).
5. Landwehr, J., et al., Gene, **124**, 281-286 (1993).
6. Karey, K.P., and Sirbasku, D.A., Cancer Research, **48,** 4083-4092 (1988).

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