ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Insulin Binding Protein 3 (IGFBP3) protein

Cat. IGFBP35-R-10- Recombinant Human IGFBP-3 protein **SIZE**: 10 ug

The insulin like growth factors (IGFs) are the major growth-promoting factors in the plasma. IGFs are secreted by a variety of cells and exert a multitude of effects on cellular survival, growth and differentiation. The A and B domains of IGFs are identical to insulin. IGF initiates their biological action through binding to the type IGF receptor (IGF-1R), a heterotrimeric protein complex with a tyrosine kinase activity. The IGF-IIR lacks the kinase activity and is actually identical to the mannose-6-phophate receptor. Unlike most other peptide hormones, IGFs are complexed with specific binding proteins in the plasma known **IGF Binding proteins (IGFBPs).** At least 6 related IGFBPs **(IGFBP1-6)** have been well characterized. Recently, **IGFBP-7**/**Mac25**/prostacyclin-stimulating factor (PSF)/tumor adhesion factor (TAF) was originally identified as a cDNA derived from leptomeninges. These proteins are present in plasma in high concentration as compared to the membrane IGFRs. Therefore, IGFBPs have the potential to modulate the IGF action. IGFBPs have been shown to either inhibit or stimulate the IGF effects. The primary structures of mammalian IGFBPs appear to contain three distinct domains of roughly equivalent sizes: the conserved N-terminal domain, the highly variable mid region, and the conserved C-terminal domain. Human IGFBPs share approximately 36% identity. Recently several groups of cysteine-rich proteins with discrete, but striking, structural and functional similarities to the IGFBPs. This has led to the proposal of an IGFBP superfamily, comprised of the IGFBPs and these **IGFBP-related proteins (IGFBP-rP1-9)**.

FUNCTION: IGF-binding proteins prolong the half-life of the IGFs and have been shown to either inhibit or stimulate the growth promoting effects of the IGFs on cell culture. They alter the interaction of IGFs with their cell surface receptors.
SUBUNIT: Interacts with XLKD1 (By similarity). Binds IGF2 more than IGF1. Forms a ternary complex of about 140 to 150 kDa with IGF1 or IGF2 and a 85 kDa glycoprotein (ALS). Interacts with HN.
SUBCELLULAR LOCATION: Secreted.
TISSUE SPECIFICITY: Expressed by most tissues.
Protein name Insulin-like growth factor-binding protein 3
Synonyms IGFBP-3; IBP-3, IGF-binding protein 3, IBP3
Gene name : IGFBP3

Source of Antigen and Antibodies

Human IGFBP-3 (mature protein 264-aa, mol wt ~29 kDa) was expressed in E. coli and purified (>98%). Recombinant protein sequence of the NT has been verified to be: Gly-Ala-Ser-Ser-Gly. It is supplied in 20mM Tris, pH 7.4 in liquid (see concn on the vial) or lyophilized powder. Reconstitute powder in PBS or other buffer at no less than 100 ug/ml, preferably in a buffer containing 0.1% BSA or HAS or other carrier proteins. Reconstituted or powder protein should be stored frozen for long-term use at -20oC.

Biological Activity:

Biological activity of recombinant human IGFBP-3 was tested by its ability to inhibit IGF-II induced proliferation of MCF-7 cells (ED50=< 0.2 µg/ml in the presence of 15 ng/ml of Human IGF-II.).

Storage

Short-term: unopened, undiluted liquid vials at -20oC and powder at 4oC or -20oC..

Long-term: at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20oC or below.
Shipping: 4oC for solutions and room temp for powder

General References: (1) Cubbage ML et al (1990) JBC 265, 12642-12649; Wood WI et al (1988) Mol. Endocrinol. 2, 1176-1185; Thwatt R et al (1993) DNA seq. 4, 43-46; Zapf J et al (1990) JBC 14892-14898; Hwa V et al (1999) Endocrine Rev. 20, 761-787

*This product is for in vitro research use only.

Related Items available from ADI

IGFBP-1-7 antibodies, recombinant proteins, and IGFBP-1 ELISA kit

IGFBP35-R-10 70906A

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