

Product Specification Sheet

Insulin Binding Protein 2 (IGFBP2) Antibodies and controls

Cat. IGFBP22-M	Mouse monoclonal Anti-human IGFBP-2 IgG	SIZE: 100 ug
Cat. IGFBP22-C	Recombinant Human IGFBP-2 protein control for WB	SIZE: 100 ul

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-phosphate 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 IGFs. 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)**.

Protein name Insulin-like growth factor-binding protein 2
Synonyms IGFBP-2, IBP-2, IGF-binding protein 2, BP2, IBP2
Gene name Name: IGFBP2

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: Binds IGF2 more than IGF1.

SUBCELLULAR LOCATION: Secreted.

SIMILARITY: Contains 1 IGFBP N-terminal domain.

SIMILARITY: Contains 1 thyroglobulin type-1 domain.

Source of Antigen and Antibodies

Antigen	Recombinant (NSO) purified human IGFBP2 protein
Ab Host/type	Mouse, monoclonal IgG1 # IGFBP22-M
2-Ab	Goat Anti-mouse IgG-HRP conjugate Cat # 40320 (AP, biotin, FITC conjugates also available)
-ve control IgG	Cat # 20008-1, Mouse (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC

For WB positive control (**#IGFBP22-C**), human IGFBP-2 (1-328 aa, mol wt ~35 kDa) was expressed in NSO and purified (>95%). For Western blot +ve control (**Cat # IGFBP22-C**) is supplied in SDS-PAGE sample buffer (reduced). Load 10 ul/lane of **IGFBP22-C** for good visibility with antibody Cat # **IGFBP22-M**.

Store at -20oC in suitable size aliquots. SDS may crystallize in cold conditions. It should redissolve by warming before taking it from the stock. It should be heated once prior to loading on gels. If the product has been stored for several weeks, then it may be preferable to add 5 ul of fresh 2x sample buffer per 10 ul of the **IGFBP22-C** solution prior to heating and loading on gels. This preparation is not biologically active. It is not suitable for ELISA or other applications where native protein is required. Do not freeze, thaw, or heat repeatedly

Form & Storage of Antibodies/Peptide Control

Purified IgG

100 ug/vial solution powder

Reconstitute in 100 ul PBS

Storage

Short-term: unopened, undiluted vials for less than a week at 4oC.

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.

Recommended Usage

Western Blotting (1:1K-2K using Chemiluminescence technique). Recombinant human IGFBP-2 is ~34 kDa. Concentrated T98 cell serum free culture medium or other cells can be used as positive control.

ELISA (1:10K; using 50-100 ng control peptide/well).

Immunoprecipitation: use 5-10 ul antiserum per 500 ul of conc. serum free medium.

Specificity & Cross-reactivity

IGFBP22-M reacts with human IGFBP-2. There is minimal (<0.1%) crossreactivity with IGFBP-1, IGFBP 3-6 (<0.5%). Purified human IGFBP2 (**#IGFBP22-C**) and mouse (**#IGFBP23-C**) are available as western blot controls.

General References: (1) Agarwal N et al (1991) Exp. Eye. Res. 52, 549-561; Zapf J et al (1990) JBC 265, 14892-14898; Binkett C et al (1989) EMBO J. 8, 2497-2502; Ehreborg E et al (1991) BBRC 176, 1250-1255; Binkert C et al (1992) Mol. Endocrinol. 6, 826-836; Hwa V et al (1999) Endocrine Rev. 20, 761-787 (review).

*This product is for in vitro research use only.

Related items

- IGFBP-1-7 antibodies, IGFBP-1 ELISA kit
- IGFBP1-7 recombinant proteins

IGFBP22-M-C 80327A

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