

Product Specification Sheet

Insulin Binding Protein 5 (IGFBP-5) Antibodies

Cat. IGFBP51-S	Rabbit Anti-Human IGFBP-5 antiserum #1	SIZE: 100 ul
Cat. IGFBP51-C	Recombinant Human IGFBP-5 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)**.

Human IGFBP-5 is a 252-aa mature protein that is expressed by fibroblasts, myoblasts and osteoblasts, making it the predominant IGFBP found in bone extracts. IGFBP-5 has a strong affinity for hydroxyapatite, allowing it to bind to bone cells. When bound to extracellular matrix, IGFBP-5 is protected from proteolysis and potentiates IGF activity, but when it is soluble, IGFBP-5 is cleaved to a biologically inactive 21 kDa fragment.

Protein name Insulin-like growth factor-binding protein 5
Synonyms IGFBP-5, IBP-5, IGF-binding protein 5, IBP5
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.
SUBCELLULAR LOCATION: Secreted.
TISSUE SPECIFICITY: Osteosarcoma, and at lower levels in liver, kidney and brain.

Source of Antigen and Antibodies

Antigen	Recombinant purified (>98%) human IGFBP-5 purified from CHO cells (31 kda)
Ab Host/type	Rabbit, Polyclonal antiserum # IGFBP51-S
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control IgG	Cat # 20009-1, Rabbit (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as -ve control

For WB positive control (**#IGFBP51-C**), Human IGFBP-5 (mol wt ~29 kDa) was expressed in E. coli and purified >95%). For Western blot +ve control (**Cat # IGFBP51-C**) is supplied in SDS-PAGE sample buffer (reduced). Load 10 ul/lane of **IGFBP51-C** for good visibility with antibody Cat # **IGFBP52-M** or mouse mono #IGFBP52-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 **IGFBP51-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

Antiserum (unpurified)

100ul solution lyophilized powder
Supplied in Buffer: 0.05% azide
Reconstitute powder in 100 ul PBS

Storage

Short-term: unopened, undiluted liquid vials at -200C 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

Recommended Usage

Western Blotting (1:1K-2K). Besides the ~31 kda band Fragments of 23kDa and 18kDa may also be detected in T98 culture medium.

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

IP: use 4-5 ul per assay.

IHC: not tested.

Specificity & Cross-reactivity

IGFBP51-S antibody recognizes IGFBP-5 from human. It has minimal reactivity with human IGFBP-1-4, and IGFBP-6. Other species not tested. recombinant human IGFBP-5 protein (#IGFBP51-C) is available as a control for Western.

General References: (1) Cabbage 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

IGFBP51-S-C 80328A

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