

Product Specification Sheet

Insulin Binding Protein 4 (IGFBP4) Antibodies and protein control

Cat. IGFBP41-S	Rabbit Anti-Human IGFBP-4 protein antiserum #1	SIZE: 100 ul
Cat. IGFBP41-C	Recombinant Human IGFBP-4 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.

Insulin-like growth factor binding protein-4 (IGFBP-4, 22-237 aa mature protein, protein accession # P22692) is expressed in multiple tissues including adrenal, testis, spleen, heart, lung, kidney, liver, stomach, hypothalamus, and brain cortex. High expression levels are found in the non-paranchymal cells of the liver. 4 IGFBP-4 is the predominant IGFBP expressed by human osteoblast-like cells and is also expressed in skin fibroblasts.5

Protein name Insulin-like growth factor-binding protein 4
Synonyms IGFBP-4; IBP-4, IGF-binding protein 4, IBP4
Gene name Name: IGFBP4
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	Human IGFBP4 purified (>98%) from conditioned medium from the human glioblastoma cell line, T98G
Ab Host/type	Rabbit, Polyclonal antiserum # IGFBP41-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 (#**IGFBP41-C**), Human IGFBP-4 (mature protein 22-258-aa, mol wt ~29 kDa) was expressed in

NSO cells with a CD33 signal peptide (>95%, recombinant mol wt ~32 and 25 kda under reducing and non-reducing conditions respectively). For Western blot +ve control (**Cat # IGFBP41-C**) is supplied in SDS-PAGE sample buffer (reduced). Load 10 ul/lane of **IGFBP41-C** for good visibility with antibody Cat # **IGFBP41-S** or mouse mono #IGFBP42-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 **IGFBP41-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 -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

Recommended Usage

Western Blotting (1:1K-2K). Concentrated T98G cell serum free culture medium or recombinant protein can be used as positive control.

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

IP: use 2-10 ul per assay.

Specificity & Cross-reactivity

IGFBP41-S antibody recognizes native IGFBP-4 from human (~25 kda). It has minimal reactivity with IGFBP-1, -3, and -5 but significant reactivity to IGFBP-2 (~50%). Antibodies react with IGFBP-4 from cow, pig, and mouse IGFBP-4. Antibody crossreactivity in various other species is not established. Recombinant purified human IGFBP-4 (#IGFBP41-C) can be used as positive control.

General References: (1) Latour D (1990) Mol. Endocrinol. 4, 1806; Shimasaki S (1990) Mol Endocrinol. 4, 1451; Kiefer MC (1991) JBC 266, 9043

*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

IGFBP41-S-C 80314A

India Contact:

Life Technologies (India) Pvt. Ltd.

306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi - 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444
Email: customerservice@lifetechindia.com Website: www.lifetechindia.com