

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse IGFBP-rp1/IGFBP-7 in direct ELISAs.
Source	Monoclonal Rat IgG ₁ Clone # 292917
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant mouse IGFBP-rp1/IGFBP-7 Ser28-Leu281 (Arg94Lys) Accession # A0A5E1
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Immunohistochemistry	8-25 µg/mL	Perfusion fixed frozen sections of mouse thymus

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Insulin-like growth factor (IGF) binding protein-related protein 1 (IGFBP-rp1), also known as IGF binding protein-7 (IGFBP-7) and Mac25 is a 31-37 kDa secreted glycoprotein that belongs to the IGFBP superfamily of molecules (1, 2). Members of this superfamily are characterized by the presence of 10-12 conserved cysteines in the first third of the molecule, and the partial conservation of an xCGCCxxC octapeptide motif that exists in an N-terminal IGFBP domain (1, 3). Mouse IGFBP-7 cDNA encodes a 281 amino acid (aa) precursor protein that contains a putative 25 aa signal peptide and a 256 aa mature region. The mature protein contains an N-terminal 43 aa IGFBP domain that is followed by a 52 aa Kazal-type serine proteinase inhibitor domain and a 105 aa C-terminal Ig-like C2-type domain (4, 5). The molecule is known to contain about 4 kDa of carbohydrate and believed to undergo phosphorylation (6). Mature mouse IGFBP-7 is 95% and 91% aa identical to mature rat and human IGFBP-7, respectively. Cells known to express IGFBP-7 include osteoblasts, select skeletal muscle fibers, visceral and vascular smooth muscle cells, breast epithelium, ciliated epithelium, renal tubular epithelium, astrocytes and oligodendroglia, and vascular endothelium in all tissues except brain (7). IGFBP-7 will bind both IGF-I and insulin, albeit at low affinity. When bound to IGF-I, it participates in growth promoting effects (8). Alternatively, IGFBP-7 by itself is an inhibitor of cell proliferation (6). Thus, its function is unclear. It is known to bind heparin, syndecan-1 and chemokines (8, 9). Based on human studies and aa conservation in relevant regions, mouse IGFBP-7 might be expected to undergo proteolytic cleavage extracellularly (8). This will create an 8 kDa, 72 aa subunit (containing the IGFBP domain) that is disulfide-linked to a 25 kDa, 184 aa C-terminal subunit. Cleavage will reduce IGF-I bonding activity and the promotion of IGF-dependent cell proliferation.

References:

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