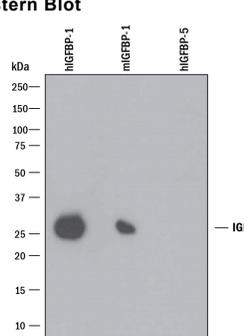
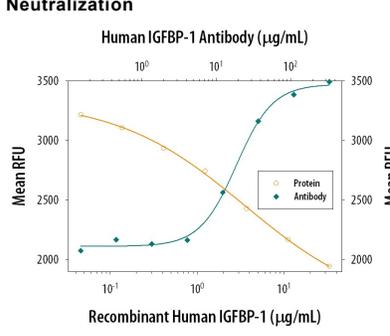


DESCRIPTION	
Species Reactivity	Human
Specificity	Detects human IGFBP-1 in ELISAs and Western blots. In Western blots, detection of recombinant mouse IGFBP-1 is observed but no cross-reactivity with recombinant human (rh) IGFBP-2, rhIGFBP-3, rhIGFBP-4 or rhIGFBP-5 is observed.
Source	Monoclonal Mouse IgG ₁ Clone # 33627
Purification	Protein A or G purified from ascites
Immunogen	<i>E. coli</i> -derived recombinant human IGFBP-1
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

APPLICATIONS	
Please Note: Optimal dilutions should be determined by each laboratory for each application. <i>General Protocols</i> are available in the <i>Technical Information</i> section on our website.	
	Recommended Concentration Sample
Western Blot	1 µg/mL See Below
Human IGFBP-1 Sandwich Immunoassay	Reagent
ELISA Capture	2-8 µg/mL Human IGFBP-1 Antibody (Catalog # MAB675)
ELISA Detection	0.1-0.4 µg/mL Human IGFBP-1 Biotinylated Antibody (Catalog # BAF871)
Standard	Recombinant Human IGFBP-1 (Catalog # 871-B1)
Neutralization	Measured by its ability to neutralize IGFBP-1 inhibition of IGF-I-dependent proliferation in the MCF-7 human breast cancer cell line. Karey, K.P. <i>et al.</i> (1988) <i>Cancer Research</i> 48 :4083. The Neutralization Dose (ND ₅₀) is typically 10-40 µg/mL in the presence of 5 µg/mL Recombinant Human IGFBP-1 and 6 ng/mL Recombinant Human IGF-I.

DATA	
<p>Western Blot</p>  <p>Detection of Recombinant Human and Mouse IGFBP-1 by Western Blot. Western blot shows 25 ng of Recombinant Human IGFBP-1 (Catalog # 871-B1), Recombinant Mouse IGFBP-1 (Catalog # 1588-B1) and Recombinant Human IGFBP-5 (Catalog # 875-B5). PVDF Membrane was probed with 1 µg/mL of Mouse Anti-Human IGFBP-1 Monoclonal Antibody (Catalog # MAB675) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for IGFBP-1 at approximately 26 kDa (as indicated). This experiment was conducted under non-reducing conditions and using Immunoblot Buffer Group 3.</p>	<p>Neutralization</p>  <p>IGFBP-1 Inhibition of IGF-I-dependent Cell Proliferation and Neutralization by Human IGFBP-1 Antibody. Recombinant Human IGFBP-1 (Catalog # 871-B1) inhibits Recombinant Human IGF-I (Catalog # 291-G1) induced proliferation in the MCF-7 human breast cancer cell line in a dose-dependent manner (orange line). Inhibition of Recombinant Human IGF-I (6 ng/mL) activity elicited by Recombinant Human IGFBP-1 (5 µg/mL) is neutralized (green line) by increasing concentrations of Human IGFBP-1 Monoclonal Antibody (Catalog # MAB675). The ND₅₀ is typically 10-40 µg/mL.</p>

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. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
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

The superfamily of insulin-like growth factor (IGF) binding proteins include the six high-affinity IGF binding proteins (IGFBP) and at least four additional low-affinity binding proteins referred to as IGFBP related proteins (IGFBP-rP). All IGFBP superfamily members are cysteine-rich proteins with conserved cysteine residues, which are clustered in the amino- and carboxy-terminal thirds of the molecule. IGFBPs modulate the biological activities of IGF proteins. Some IGFBPs may also have intrinsic bioactivity that is independent of their ability to bind IGF proteins. Post-translational modifications of IGFBP, including glycosylation, phosphorylation and proteolysis, have been shown to modify the affinities of the binding proteins to IGF.

Human IGFBP-1 cDNA encodes a 259 amino acid (aa) residue precursor protein with a putative 25 aa residue signal peptide that is processed to generate the 234 aa residue mature protein. IGFBP-1 contains an integrin receptor recognition sequence (RGD sequence) but lacks potential N-linked glycosylation sites. IGFBP-1 is expressed in liver, decidua, kidneys and is the most abundant IGFBP in amniotic fluid. Serum levels of IGFBP-1 are lowest after meals. Hepatocyte production of IGFBP-1 is regulated at the transcriptional level due to the affects of insulin and corticosteroids. IGFBP-1 binds equally well to IGF-I and IGF-II, with phosphorylated forms of IGFBP-1 exhibiting higher binding affinities.

References:

1. Jones, J.I. and D.R. Clemmons (1995) *Endocrine Rev.* **16**:3.
2. Kelley, K.M. *et al.* (1996) *Int. J. Biochem. Cell Biol.* **28**:619.