

DESCRIPTION	
Species Reactivity	Human
Specificity	Detects human IL-18 BP _a in direct ELISAs and Western blots. In Western blots, less than 1% cross-reactivity with recombinant mouse (rm) IL-18 BP _c and rmlIL-18 BP _d is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human IL-18 BP _a Thr31-Gly194 Accession # O95998
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 as a 0.2 µm filtered solution in PBS.

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
Western Blot	0.5 µg/mL	See Below
Neutralization	Measured by its ability to neutralize IL-18 BP _a inhibition of IL-18/IL-1F4-induced IFN-γ secretion in the KG-1 human acute myelogenous leukemia cell line. The Neutralization Dose (ND ₅₀) is typically 1-5 µg/mL in the presence of 0.1 µg/mL Recombinant Human IL-18 BP _a Fc Chimera, 40 ng/mL Recombinant Human IL-18/IL-1F4, and 20 ng/mL Recombinant Human TNF-α.	

DATA

Western Blot

Detection of Human IL-18 BP_a by Western Blot.
Western blot shows conditioned media from HUVEC human umbilical vein endothelial cells untreated (-) or treated (+) with 50 ng/mL Recombinant Human IFN-γ (Catalog # 285-IF) and 40 ng/mL Recombinant Human TNF-α (Catalog # 210-TA) for 48 hours. PVDF membrane was probed with 0.5 µg/mL of Goat Anti-Human IL-18 BP_a Antigen Affinity-purified Polyclonal Antibody (Catalog # AF119) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). A specific band was detected for IL-18 BP_a at approximately 50 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Neutralization

IL-18 BP_a Inhibition of IL-18/IL-1F4-induced IFN-γ Secretion and Neutralization by Human IL-18 BP_a Antibody.
Recombinant Human IL-18 BP_a Fc Chimera (Catalog # 119-BP) inhibits Recombinant Human IL-18/IL-1F4 induced IFN-γ secretion in the KG-1 human acute myelogenous leukemia cell line in a dose-dependent manner (orange line), as measured by the Human IFN-γ Quantikine ELISA Kit (Catalog # DIF50). Inhibition of Recombinant Human IL-18/IL-1F4 (40 ng/mL) activity elicited by Recombinant Human IL-18 BP_a Fc Chimera (0.1 µg/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Human IL-18 BP_a Antigen Affinity-purified Polyclonal Antibody (Catalog # AF119). The ND₅₀ is typically 1-5 µg/mL in the presence of Recombinant Human TNF-α (20 ng/mL).

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 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	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <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

Interleukin 18 binding protein (IL-18 BP) is a secreted glycoprotein, which functions as an IL-18 antagonist by binding to IL-18 and blocking its biological activity. IL-18 BP bears no amino acid sequence homology to the membrane-associated IL-18 and IL-1 receptor proteins. The gene for human IL-18 BP has been localized to chromosome 11q13. It encodes for at least four isoforms by alternative splicing. The IL-18 BP isoforms a and c each contain one immunoglobulin (Ig)-like C2-type domain while isoforms b and d lack a complete Ig domain. The complete Ig domain has been shown to be essential to the binding and neutralizing properties of the binding proteins. Two isoforms of mouse IL18 BP (c and d) containing the complete Ig domain have also been isolated and shown to neutralize IL-18 bioactivity. Human and mouse IL-18 BPs share approximately 61% amino acid sequence identity. Several poxviruses also encode proteins with sequence similarity to the human and mouse IL-18 BP. Viral IL-18 BPs have been shown to bind and inhibit IL-18 responses and may be involved in modulating host immune responses. The expression of IL-18 BP is markedly up-regulated by IFN- γ , suggesting that IL-18 activity is modulated by a negative feedback mechanism mediated by IL-18 BP.

References:

1. Mühl, H. *et al.* (2000) *Biochem. Biophys. Res. Commun.* **267**:960.
2. Kim, S-H. *et al.* (2000) *Proc. Nat. Acad. Sci. USA* **97**:1190.
3. Calderara, S. *et al.* (2001) *Virology* **279**:22.