Human IL-18 Rα/IL-1 R5 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF840

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IL-18 Rα/IL-1 R5 in direct ELISAs and Western blots. In direct ELISAs, approximately 5% cross-reactivity with recombinant mouse IL-18 Rα is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human IL−18 Rα/IL-1 R5 Glu20-Arg329 Accession # Q13478
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.

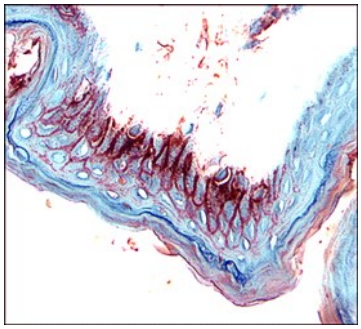
APPLICATIONS

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	0.1 µg/mL	Recombinant Human IL−18 Rα/IL−1 R5 Fc Chimera (Catalog # 816-LR)
Flow Cytometry	2.5 µg/10^6 cells	Human $CD3^+$ T cells treated with PHA and Recombinant Human IL−2 (Catalog # 202-IL)
Immunohistochemistry	5-15 µg/mL	See Below
Neutralization	Measured by its ability to neutralize 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 0.1-0.4 µg/mL in the presence of 40 ng/mL Recombinant Human IL−18/IL−1F4.	

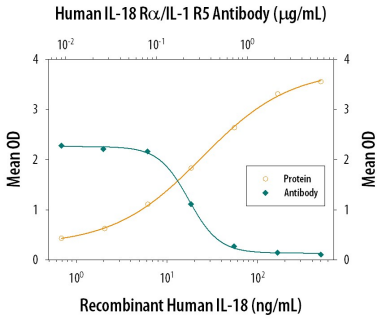
DATA

Immunohistochemistry



IL-18 Rα/IL-1 R5 in Human Skin. IL-18 Rα/IL-1 R5 was detected in immersion fixed frozen sections of human skin using Goat Anti-Human IL-18 Rα/IL-1 R5 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF840) at 1.7 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-AEC Cell & Tissue Staining Kit (red; Catalog # CTS009) and counterstained with hematoxylin (blue). Specific labeling was localized to the plasma membrane of keratinocytes. View our protocol for Chromogenic IHC Staining of Frozen Tissue Sections.

Neutralization



IFN-γ Secretion Induced by IL-18/IL-1F4 and Neutralization by Human IL-18 Rα/IL-1 R5 Antibody. Recombinant Human IL-18/IL-1F4 stimulates 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). IFN-γ secretion elicited by IL-18/IL-1F4 (40 ng/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Human IL-18 Rα/IL-1 R5 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF840). The ND_{50} is typically 0.1-0.4 µg/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	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 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 (IL-18) is a member of the IL-1 family of cytokines and shares numerous immuno-regulatory functions with IL-12. The functional IL-18 receptor complex is composed of two subunits designated IL-18 Rα (also termed IL-1 R5 and IL-1 Rrp) and IL-18 Rβ (also termed IL-1 R7 and AcPL). Both IL-18 Rα and IL-18 Rβ belong to the IL-1 receptor superfamily. Although IL-18 R by itself binds IL-18 with low-affinity and IL-18 Rβ does not bind IL-18 *in vitro,* co-expression of IL-18 Rα and IL-18 Rβ is required for high-affinity binding and IL-18 responsiveness. Human IL-18 R cDNA encodes a 541 amino acid (aa) precursor type I membrane protein with a hydrophobic signal, an extracellular domain comprised of three immunoglobulin-like domains, a transmembrane domain and a cytoplasmic region of approximately 200 aa residues. Human and mouse IL-18 R share 65% amino acid sequence homology. IL-18 R is widely expressed in numerous tissues including spleen, thymus, leukocyte, liver, lung, heart, small and large intestine, prostate, and placenta.

References:

1. Parnet, P. *et al.* (1996) J. Biol. Chem. **271**:3967.
2. Torigoe, K. *et al.* (1997) J. Biol. Chem. **272**:25737.
3. Born, T.L. *et al.* (1998) J. Biol. Chem. **273**:29445.