Human IL-16 C-terminal Peptide Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF-316-PB

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IL-16 in direct ELISAs and Western blots. In direct ELISAs, less than 5% cross-reactivity with recombinant mouse IL-16 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant human IL-16 Met1203-Ser1332 Accession # Q14005
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.

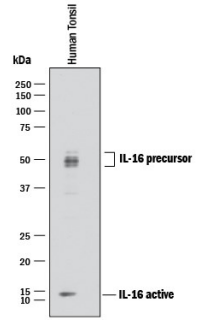
APPLICATIONS

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

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below
Immunocytochemistry	5-15 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	See Below
Intracellular Staining by Flow Cytometry	0.25 µg/10^6 cells	Raji human Burkitt's lymphoma cell line fixed with paraformaldehyde and permeabilized with saponin
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

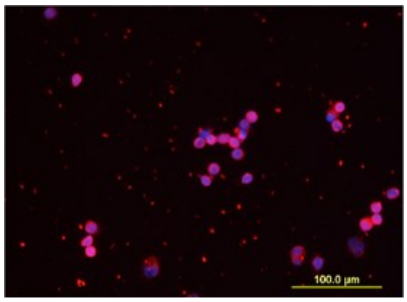
DATA

Western Blot



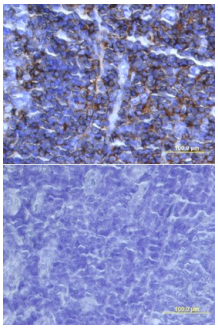
Detection of Human IL-16 by Western Blot. Western blot shows lysate of human tonsil tissue. PVDF membrane was probed with 1 µg/mL of Goat Anti-Human IL-16 C-terminal Peptide Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-316-PB) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # Catalog # HAF017). Specific bands were detected for IL-16 at approximately 14 kDa (active) and 45-55 kDa (precursor), as indicated. This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunocytochemistry



IL-16 in Human PBMCs. IL-16 was detected in immersion fixed LPS-stimulated human peripheral blood mononuclear cells (PBMCs) using 10 µg/mL Human IL-16 C-terminal Peptide Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-316-PB) for 3 hours at room temperature. Cells were stained with the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (red; Catalog # Catalog # NL001) and counterstained with DAPI (blue). View our protocol for Fluorescent ICC Staining of Non-adherent Cells.

Immunohistochemistry



IL-16 in Human Tonsil. IL-16 was detected in immersion fixed paraffin-embedded sections of human tonsil using 15 µg/mL Human IL-16 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-316-PB) overnight at 4 °C. Tissue was stained with the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # Catalog # CTS008) and counterstained with hematoxylin (blue). Lower panel shows a lack of labeling if primary antibodies are omitted and tissue is stained only with secondary antibody followed by incubation with detection reagents. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

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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 16, also named lymphocyte chemoattractant factor (LCF), was originally identified as a $CD8^+$ T-cell-derived chemoattractant for $CD4^+$ cells. The biologically active form of IL-16 was originally proposed to be a homotetramer of 14 kDa chains containing 130 amino acid residue subunits. The complete pro-IL-16 cDNA was subsequently cloned and shown to encode a 631 amino acid residue hydrophilic protein that lacked a signal peptide. The original 130 amino acid residue polypeptide is now believed to have been derived from the C terminus of the precursor. IL-16 precursor protein has been detected in the lysates of various cells including mitogen stimulated PBMCs. The biologically active and secreted natural IL-16 is assumed to be a proteolytic cleavage product of pro-IL-16 generated by proteases present in or on activated $CD8^+$ cells. A likely cleavage site was proposed to be at aspartate residue 510. This would yield a 121 amino acid residue protein, smaller than the 130 aa residue protein first described. The expression of IL-16 precursor mRNA has been detected in various tissues including spleen, thymus, lymph nodes, peripheral leukocytes, bone marrow and cerebellum. The gene for IL-16 precursor has been localized to chromosome 15. The biological activities ascribed to IL-16 are reported to be dependent on the cell surface expression of CD4, suggesting that IL-16 is a CD4 ligand. Besides its chemotactic properties, IL-16 has also been shown to suppress HIV-1 replication *in vitro*. Recombinant *E. coli*-derived IL-16 produced at R&D Systems is present mostly as a monomer, exhibits chemotactic activity for lymphocytes at high concentrations, lacks chemotactic activites for monocytes, and binds the extracellular domain of CD4 with low affinity.

References:

1. Cruikshank, W.W. *et al.* (1994) Proc. Natl. Acad. Sci. USA **91**:5109.
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3. Zhou, A. *et al.* (1997) Nature Medicine **3**:659.
4. Bazan, J.F. and T.J. Schall (1996) Nature **381**:29.

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