

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IL-16 in direct ELISAs and Western blots. In direct ELISAs and Western blots, less than 5% cross-reactivity with recombinant mouse IL-16 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -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 as a 0.2 µm filtered solution in PBS.

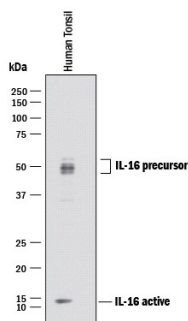
APPLICATIONS

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

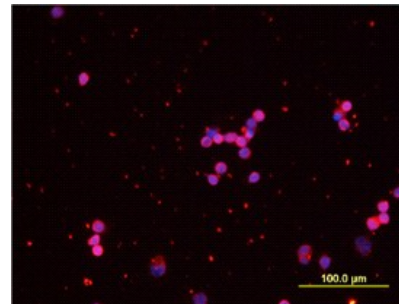
DATA

Western Blot



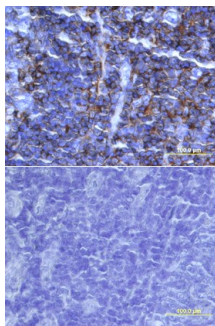
Detection of Human IL-16 by Western Blot. Western blot shows lysate of human tonsil tissue. PVDF membrane was probed with 1 µg/mL of Goat Anti-Human IL-16 C-terminal Peptide Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-316-PB) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # 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 # 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 # 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](#).

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. <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 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 activities 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.
2. Baier, M. *et al.* (1997) Proc. Natl. Acad. Sci. USA **94**:5273.
3. Zhou, A. *et al.* (1997) Nature Medicine **3**:659.
4. Bazan, J.F. and T.J. Schall (1996) Nature **381**:29.