Human IL-16 Antibody

Monoclonal Mouse IgG_1 Clone # 70719

Catalog Number: MAB316

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IL-16 in direct ELISAs and Western blots.
Source	Monoclonal Mouse IgG_1 Clone # 70719
Purification	Protein A or G purified from ascites
Immunogen	*E. coli*-derived recombinant human IL-16 isoform 1 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.

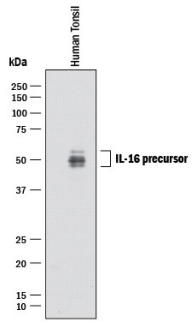
APPLICATIONS

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	2 µg/mL	See Below
Simple Western	20 µg/mL	See Below
Human IL-16 Sandwich Immunoassay		**Reagent**
ELISA Capture	2-8 µg/mL	Human IL-16 Antibody (Catalog # MAB316)
ELISA Detection	0.1-0.4 µg/mL	Human IL-16 C-terminal Peptide Biotinylated Antibody (Catalog # BAF316)
Standard		Recombinant Human IL-16 (Catalog # 316-IL)

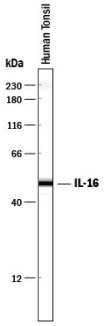
DATA

Western Blot



Detection of Human IL-16 by Western Blot. Western blot shows lysate of human tonsil tissue. PVDF membrane was probed with 2 µg/mL of Mouse Anti-Human IL-16 Monoclonal Antibody (Catalog # MAB316) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). Specific bands were detected for IL-16 at approximately 45-55 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Simple Western



Detection of Human IL-16 by Simple Western™. Simple Western lane view shows lysates of human tonsil tissue, loaded at 0.2 mg/mL. A specific band was detected for IL-16 at approximately 50 kDa (as indicated) using 20 µg/mL of Mouse Anti-Human IL-16 Monoclonal Antibody (Catalog # MAB316). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

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.** ● 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.

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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.
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.

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