

#### DESCRIPTION

|                                                                                                                                                                                                         |                                                                                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b>                                                                                                                                                                               | Human                                                                                                                                             |
| <b>Specificity</b>                                                                                                                                                                                      | 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. |
| <b>Source</b>                                                                                                                                                                                           | Polyclonal Goat IgG                                                                                                                               |
| <b>Purification</b>                                                                                                                                                                                     | Antigen Affinity-purified                                                                                                                         |
| <b>Immunogen</b>                                                                                                                                                                                        | <i>E. coli</i> -derived recombinant human IL-16<br>Met1203-Ser1332<br>Accession # Q14005                                                          |
| <b>Conjugate</b>                                                                                                                                                                                        | Alexa Fluor 405<br>Excitation Wavelength: 405 nm<br>Emission Wavelength: 421 nm                                                                   |
| <b>Formulation</b>                                                                                                                                                                                      | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide                                                                                      |
| *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |                                                                                                                                                   |

#### 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.

|                                                 |                                                                        |
|-------------------------------------------------|------------------------------------------------------------------------|
| <b>CyTOF-ready</b>                              | Optimal dilution of this antibody should be experimentally determined. |
| <b>Western Blot</b>                             | Optimal dilution of this antibody should be experimentally determined. |
| <b>Immunocytochemistry</b>                      | Optimal dilution of this antibody should be experimentally determined. |
| <b>Immunohistochemistry</b>                     | Optimal dilution of this antibody should be experimentally determined. |
| <b>Intracellular Staining by Flow Cytometry</b> | Optimal dilution of this antibody should be experimentally determined. |

#### PREPARATION AND STORAGE

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|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

#### BACKGROUND

Interleukin 16, also named lymphocyte chemoattractant factor (LCF), was originally identified as a CD8<sup>+</sup> T-cell-derived chemoattractant for CD4<sup>+</sup> 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<sup>+</sup> 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.

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