

## DESCRIPTION

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b>                                                                                                                                                                               | Rat                                                                                                                                                                              |
| <b>Specificity</b>                                                                                                                                                                                      | Detects rat IL-5 in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant human IL-5 and recombinant mouse IL-5 is observed. |
| <b>Source</b>                                                                                                                                                                                           | Monoclonal Mouse IgG <sub>2B</sub> Clone # 119905                                                                                                                                |
| <b>Purification</b>                                                                                                                                                                                     | Protein A or G purified from ascites                                                                                                                                             |
| <b>Immunogen</b>                                                                                                                                                                                        | <i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant rat IL-5<br>Met20-Val132<br>Accession # Q08125                                                           |
| <b>Conjugate</b>                                                                                                                                                                                        | Alexa Fluor 488<br>Excitation Wavelength: 488 nm<br>Emission Wavelength: 515-545 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.

**Western Blot** Optimal dilution of this antibody should be experimentally determined.

## PREPARATION AND STORAGE

**Shipping** The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage** Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

## BACKGROUND

Interleukin-5 (IL-5) is a secreted glycoprotein that belongs to the  $\alpha$ -helical group of cytokines (1 - 3). Unlike other family members, it is present as a covalently linked antiparallel dimer (4, 5). The cDNA for rat IL-5 encodes a signal peptide and a 113 amino acid (aa) secreted mature protein. Mature rat IL-5 shares 70%, 94%, 56%, 63%, 59% and 59%, aa sequence identity with human, mouse, canine, equine, feline and porcine IL-5, respectively. IL-5 is primarily produced by CD4<sup>+</sup> Th2 cells, but also by activated eosinophils, mast cells, EBV-transformed B cells, Reed-Sternberg cells in Hodgkin's disease, and IL-2-stimulated invariant natural killer T cells (iNKT) (1 - 3, 6 - 8). IL-5 increases production and mobilization of eosinophils and CD34<sup>+</sup> progenitors from the bone marrow and causes maturation of eosinophil precursors outside the bone marrow (1, 6, 9, 10). The receptor for human IL-5, mainly expressed by eosinophils, but also found on basophils and mast cells, consists of a unique ligand-binding subunit (IL-5 R $\alpha$ ) and a shared signal-transducing subunit,  $\beta$ c (3, 6, 11). IL-5 R $\alpha$  first binds IL-5 at low affinity, then associates with preformed  $\beta$ c dimers, forming a high-affinity receptor (12). IL-5 also binds proteoglycans, potentially enhancing its activity (13). Soluble forms of IL-5 R $\alpha$  antagonize IL-5 and can be found in vivo (10, 14). In humans, IL-5 primarily affects cells of the eosinophilic lineage, and promotes their differentiation, maturation, activation, migration and survival, while in mice IL-5 also enhances Ig class switching and release from B1 cells (1 - 3, 9, 10, 15, 16). IL-5 also promotes differentiation of basophils and primes them for histamine and leukotriene release (17).

## PRODUCT SPECIFIC NOTICES

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