

DESCRIPTION

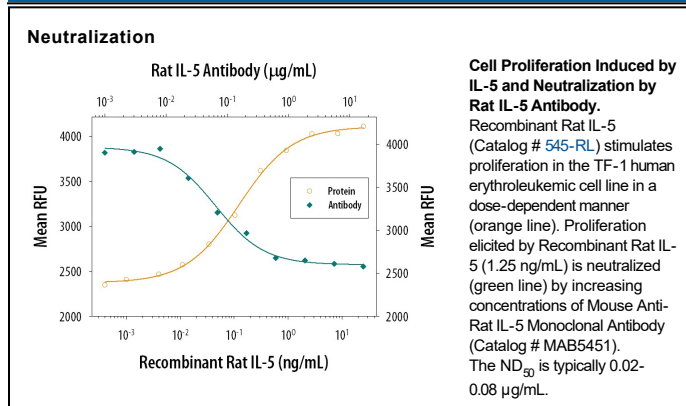
Species Reactivity	Rat
Specificity	Detects rat IL-5 in direct ELISAs. In direct ELISAs, 50% cross-reactivity with mouse IL-5 is observed and no cross-reactivity with human, equine, canine, feline, or rhesus monkey IL-5 is observed.
Source	Monoclonal Mouse IgG _{2B} Clone # 299257
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant rat IL-5 Met20-Val132 Accession # Q08125
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
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.

Neutralization	Measured by its ability to neutralize IL-5-induced proliferation in the TF-1 human erythroleukemic cell line. Kitamura, T. <i>et al.</i> (1989) <i>J. Cell Physiol.</i> 140 :323. The Neutralization Dose (ND ₅₀) is typically 0.02-0.08 µg/mL in the presence of 1.25 ng/mL Recombinant Rat IL-5.
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DATA



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. <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-5 (IL-5) is a secreted glycoprotein that belongs to the α -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⁺ 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⁺ 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 α) and a shared signal-transducing subunit, β c (3, 6, 11). IL-5 R α first binds IL-5 at low affinity, then associates with preformed β c dimers, forming a high-affinity receptor (12). IL-5 also binds proteoglycans, potentially enhancing its activity (13). Soluble forms of IL-5 R α 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).

References:

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