Mouse IL-3 Antibody

Monoclonal Rat IgG_1 Clone # MP28F8

Catalog Number: MAB403

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse IL-3 in direct ELISAs and Western blots. In Western blots, no cross-reactivity with recombinant human (rh) IL-3 or recombinant rat IL-3 is observed. Does not neutralize the biological activity of rhIL-3.
Source	Monoclonal Rat IgG_1 Clone # MP28F8
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	COS-7 African green monkey SV40 transformed kidney fibroblast-like cell line-derived recombinant mouse IL-3 Accession # P01586
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 as a 0.2 µm filtered solution in PBS.

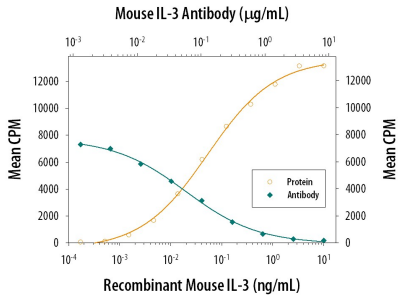
APPLICATIONS

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	Recombinant Mouse IL-3 (Catalog # 403-ML)
Mouse IL-3 Sandwich Immunoassay		**Reagent**
ELISA Capture	2-8 µg/mL	Mouse IL-3 Antibody (Catalog # MAB403)
ELISA Detection	0.1-0.4 µg/mL	Mouse IL-3 Biotinylated Antibody (Catalog # BAF403)
Standard		Recombinant Mouse IL-3 (Catalog # 403-ML)
Neutralization	Measured by its ability to neutralize IL-3-induced proliferation in the NFS60 mouse myeloid cell line. The Neutralization Dose (ND_{50}) is typically 0.05 - 0.15 µg/mL in the presence of 0.5 ng/mL Recombinant Mouse IL-3.	

DATA

Neutralization



Cell Proliferation Induced by IL-3 and Neutralization by Mouse IL-3 Antibody. Recombinant Mouse IL-3 (Catalog # 403-ML) stimulates proliferation in the NFS60 mouse myeloid cell line in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Mouse IL-3 (0.5 ng/mL) is neutralized (green line) by increasing concentrations of Rat Anti-Mouse IL-3 Monoclonal Antibody (Catalog # MAB403). The ND_{50} is typically 0.05-0.15 µg/mL.

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 3 is a pleiotropic factor produced primarily by activated T cells that can stimulate the proliferation and differentiation of pluripotent hematopoietic stem cells as well as various lineage committed progenitors. In addition, IL-3 also affects the functional activity of mature mast cells, basophils, eosinophils and macrophages. Because of its multiple functions and targets, it was originally studied under different names, including mast cell growth factor P-cell stimulating factor, burst promoting activity, multi-colony stimulating factor, thy-1 inducing factor and WEHI-3 growth factor. In addition to activated T cells, other cell types such as human thymic epithelial cells, activated mouse mast cells, mouse keratinocytes and neurons/astrocytes can also produce IL-3. At the amino acid sequence level, mature human and mouse IL-3 share only 29% sequence identity. Consistent with this lack of homology, IL-3 activity is highly species-specific and human IL-3 does not show activity on mouse cells.

IL-3 exerts its biological activities through binding to specific cell surface receptors. The high affinity receptor responsible for IL-3 signaling is composed of α and β subunits. The IL-3 Rα is a member of the cytokine receptor super family and binds IL-3 with low affinity. Two distinct β subunits, AIC2A (β_{IL-3}) and AIC2B (β_c) are present in mouse cells. β_{IL-3} also binds IL-3 with low affinity and forms a high affinity receptor with the α subunit. The β_c subunits does not bind any cytokine but forms functional high affinity receptors with the α subunit of the IL-3, IL-5 and GM-CSF receptors. Receptors for IL-3 are present on bone marrow progenitors, macrophages, mast cells, eosinophils, megakaryocytes, basophils and various myeloid leukemic cells.

References:

1. Yokota, T. *et al.* (1984) Proc. Natl. Acad. Sci. USA **81:**1070.
2. Fung, M.C. *et al.* (1984) Nature **307:**233.
3. Miyatake, S. *et al.* (1985) Proc. Natl. Acad. Sci. USA **82:**316.

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