Mouse IL-3 Antibody

Polyclonal Goat IgG

Catalog Number: AB-403-NA

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse IL-3 in direct ELISAs and Western blots. In direct ELISAs, less than 5% cross-reactivity with recombinant rat IL-3 is observed and less than 1% cross-reactivity with recombinant human IL-3 is observed. Neutralizes the biological activity of recombinant mouse IL-3, but will not neutralize the biological activity of recombinant human IL-3.
Source	Polyclonal Goat IgG
Purification	Protein A or G purified
Immunogen	*E. coli*-derived recombinant mouse IL-3 Asp33-Cys166 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.

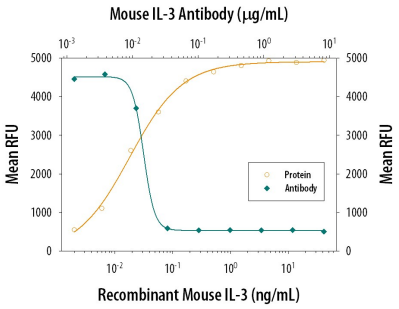
APPLICATIONS

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)
Neutralization	Measured by its ability to neutralize IL-3-induced proliferation in the NFS60 mouse myeloid cells. The Neutralization Dose (ND_{50}) is typically 0.015-0.025 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 cells 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 Goat Anti-Mouse IL-3 Polyclonal Antibody (Catalog # AB-403-NA). The ND_{50} is typically 0.015-0.025 µg/mL.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 1 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
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-3Rα 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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