Human IL-3 Antibody

Monoclonal Mouse IgG_1 Clone # 4806

Catalog Number: MAB203

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IL-3 in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant mouse IL-3 is observed. Does not neutralize the biological activity of recombinant mouse IL-3.
Source	Monoclonal Mouse IgG_1 Clone # 4806
Purification	Protein A or G purified from ascites
Immunogen	*E. coli*-derived recombinant human IL-3 Ala20-Phe152 Accession # Q6GS87
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.

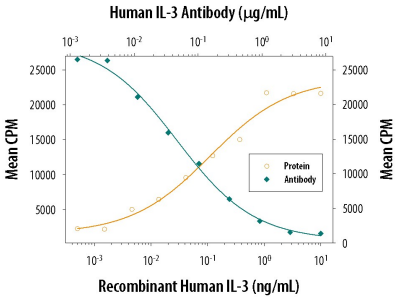
APPLICATIONS

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 Human IL-3 (Catalog # 203-IL)
Immunocytochemistry	8-25 µg/mL	See Below
Neutralization	Measured by its ability to neutralize IL-3-induced proliferation in the TF-1 human erythroleukemic cell line. Kitamura, T. *et al.* (1989) J. Cell Physiol. **140**:323. The Neutralization Dose (ND_{50}) is typically 0.03-0.08 µg/mL in the presence of 1.25 ng/mL Recombinant Human IL-3.	

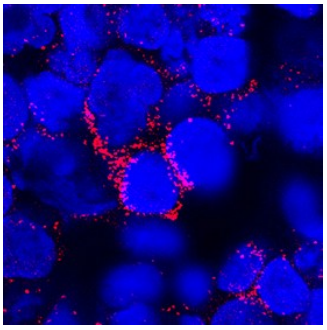
DATA

Neutralization



Cell Proliferation Induced by IL-3 and Neutralization by Human IL-3 Antibody. Recombinant Human IL-3 (Catalog # 203-IL) stimulates proliferation in the TF-1 human erythroleukemic cell line in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Human IL-3 (1.25 ng/mL) is neutralized (green line) by increasing concentrations of Mouse Anti-Human IL-3 Monoclonal Antibody (Catalog # MAB203). The ND_{50} is typically 0.03-0.08 µg/mL.

Immunocytochemistry



IL-3 in Human PBMCs. IL-3 was detected in immersion fixed human peripheral blood mononuclear cells (PBMCs) using Mouse Anti-Human IL-3 Monoclonal Antibody (Catalog # MAB203) at 25 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

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.

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 murine mast cells, murine keratinocytes and neurons/astrocytes can also produce IL-3. At the amino acid sequence level, mature human and murine 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 murine 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 at least two subunits, an IL-3 specific α chain which binds IL-3 with low affinity and a common β chain that is shared by the IL-5 and GM-CSF high-affinity receptors. Although the β chain itself does not bind IL-3, it confers high-affinity IL-3 binding in the presence of the α chain. Receptors for IL-3 are present on bone marrow progenitors, macrophages, mast cells, eosinophils, megakaryocytes, basophils and various myeloid leukemic cells.

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