

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse IL-3 in ELISAs and Western blots. In sandwich immunoassays, less than 0.1% cross-reactivity with recombinant human IL-3 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant mouse IL-3 (R&D Systems, Catalog # 403-ML) Asp33-Cys166 Accession # NP_034686
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. 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	0.1 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)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 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	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <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 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-3R α is a member of the cytokine receptor super family and binds IL-3 with low affinity. Two distinct β subunits, AIC2A (β_{L-3}) and AIC2B (β_c) are present in mouse cells. β_{L-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.