

DESCRIPTION

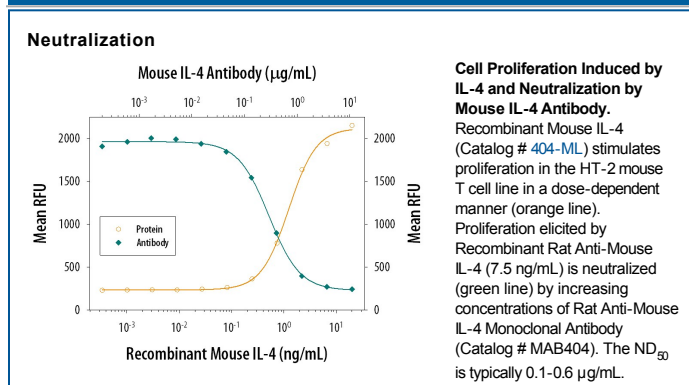
Species Reactivity	Mouse
Specificity	Detects mouse IL-4 in ELISAs and Western blots.
Source	Monoclonal Rat IgG ₁ Clone # 30340
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant mouse IL-4 His23-Ser140 Accession # P07750
Endotoxin Level	<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-4 (Catalog # 404-ML) under non-reducing conditions only
Mouse IL-4 Sandwich Immunoassay		Reagent
ELISA Capture	2-8 µg/mL	Mouse IL-4 Antibody (Catalog # MAB404)
ELISA Detection	0.1-0.4 µg/mL	Mouse IL-4 Biotinylated Antibody (Catalog # BAF404)
Standard		Recombinant Mouse IL-4 (Catalog # 404-ML)
Neutralization	Measured by its ability to neutralize IL-4-induced proliferation in the HT-2 mouse T cell line. The Neutralization Dose (ND ₅₀) is typically 0.1-0.6 µg/mL in the presence of 7.5 ng/mL Recombinant Mouse IL-4.	

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-4 (IL-4), also known as B cell-stimulatory factor-1, is a monomeric, approximately 13-18 kDa Th2 cytokine that shows pleiotropic effects during immune responses (1-4). It is a glycosylated polypeptide that contains three intrachain disulfide bridges and adopts a bundled four α -helix structure (5). Mouse IL-4 is synthesized with a 24 amino acid (aa) signal sequence. Mature mouse IL-4 shares 39%, 39%, and 59% aa sequence identity with bovine, human, and rat IL-4, respectively. Human, mouse, and rat IL-4 are species-specific in their activities (6-8). IL-4 exerts its effects through two receptor complexes (9, 10). The type I receptor, which is expressed on hematopoietic cells, is a heterodimer of the ligand binding IL-4 R α and the common γ chain (a shared subunit of the receptors for IL-2, -7, -9, -15, and -21). The type II receptor on nonhematopoietic cells consists of IL-4 R α and IL-13 R α 1. The type II receptor also transduces IL-13 mediated signals. IL-4 is primarily expressed by Th2-biased CD4⁺ T cells, mast cells, basophils, and eosinophils (1, 2). It promotes cell proliferation, survival, and immunoglobulin class switch to IgG1 and IgE in mouse B cells, acquisition of the Th2 phenotype by naïve CD4⁺ T cells, priming and chemotaxis of mast cells, eosinophils, and basophils, and the proliferation and activation of epithelial cells (11-14). IL-4 plays a dominant role in the development of allergic inflammation and asthma (13, 15).

References:

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