

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IL-4 in ELISAs and Western blots. In sandwich ELISAs, no cross-reactivity or interference was observed with recombinant human (rh) IL-1 α , rhIL-1 β , rhIL-2, rhIL-3, rhIL-6, rhIL-7, rhIL-8, rhG-CSF, rhGM-CSF, rhTNF- α , rhTNF- β , rhLIF, rhTGF- β 1, recombinant mouse (rm) IL-1 β , rmIL-6, rmIL-7, rmGM-CSF, bovine FGF acidic, bovine FGF basic, porcine PDGF, human TGF- β 1, porcine TGF- β 1.2, and porcine TGF- β 2.
Source	Monoclonal Mouse IgG ₁ Clone # 3010
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human IL-4 His25-Ser153 Accession # P05112.1
Formulation	Lyophilized from a 0.2 μ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μ m 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 μ g/mL	Recombinant Human IL-4 (Catalog # 204-IL) under non-reducing conditions only
Human IL-4 Sandwich Immunoassay		Reagent
ELISA Capture	2-8 μ g/mL	Human IL-4 Antibody (Catalog # MAB604)
ELISA Detection Standard	0.1-0.4 μ g/mL	Human IL-4 Biotinylated Antibody (Catalog # BAF204) Recombinant Human IL-4 (Catalog # 204-IL)

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 (1-3). It is a glycosylated polypeptide that contains three intrachain disulfide bridges and adopts a bundled four α -helix structure (4). Human IL-4 is synthesized with a 24 aa signal sequence. Alternate splicing generates an isoform with a 16 aa internal deletion. Mature human IL-4 shares 55%, 39% and 43% aa sequence identity with bovine, mouse, and rat IL-4, respectively. Human, mouse, and rat IL-4 are species-specific in their activities (5-7). IL-4 exerts its effects through two receptor complexes (8, 9). 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 IgG4 and IgE in human 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 (10-13). IL-4 plays a dominant role in the development of allergic inflammation and asthma (12, 14).

References:

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