

DESCRIPTION

Species Reactivity	Cotton Rat
Specificity	Detects recombinant cotton rat IL-4 in ELISAs and Western blots. In sandwich immunoassays, no cross-reactivity or interference with recombinant human IL-4, recombinant rat IL-4, recombinant porcine IL-4, recombinant feline IL-4, recombinant canine IL
Source	Monoclonal Mouse IgG ₁ Clone # 143514
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant cotton rat IL-4 Cys21-Phe147 Accession # AAL18820
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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.

ELISA Capture (Matched Antibody Pair)	Optimal dilution of this antibody should be experimentally determined.
ELISA Detection (Matched Antibody Pair)	Optimal dilution of this antibody should be experimentally determined.
Western Blot	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

Interleukin-4 (IL-4), also known as B cell-stimulatory factor-1, is a monomeric, approximately 13 kDa-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). Cotton rat IL-4 is synthesized with a 24 amino acid (aa) signal sequence. Mature cotton rat IL-4 shares 41%, 44%, 57%, and 68% aa sequence identity with bovine, human, mouse, and rat IL-4, respectively. IL-4 exerts its effects through two receptor complexes (5, 6). The type I receptor, which is expressed on hematopoietic cells, is a heterodimer of the ligand binding IL-4 Rα 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 Rα and IL-13 Rα1. 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 IgE in 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 (7-10). IL-4 plays a dominant role in the development of allergic inflammation and asthma (9, 11).

PRODUCT SPECIFIC NOTICES

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