

DESCRIPTION

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| Species Reactivity | Bovine |
| Specificity | detects bovine IL-4 in direct ELISAs and Western blots. In direct ELISAs, less than 25% cross-reactivity with recombinant porcine, canine, rhesus, cotton rat, equine, or rabbit IL-4 is observed and no cross-reactivity with recombinant human, mouse, rat, or o |
| Source | Monoclonal Mouse IgG _{2B} Clone # 701214 |
| Purification | Protein A or G purified from hybridoma culture supernatant |
| Immunogen | <i>E. coli</i> -derived recombinant bovine IL-4 His25-Cys135 Accession # P30367.2 |
| Conjugate | Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm |
| Formulation | Supplied 0.2mg/ml in 1X PBS with RFD1 and 0.09% Sodium Azide |
| <p>*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.</p> | |

APPLICATIONS

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| <p>Please Note: Optimal dilutions should be determined by each laboratory for each application. <i>General Protocols</i> are available in the Technical Information section on our website.</p> | |
| Western Blot | Optimal dilution of this antibody should be experimentally determined. |
| Immunocytochemistry | Optimal dilution of this antibody should be experimentally determined. |

PREPARATION AND STORAGE

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| 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). Bovine IL-4 is synthesized with a 24 amino acid (aa) signal sequence. Alternate splicing generates two additional isoforms with internal deletions (5). Mature bovine IL-4 shares 60%, 91%, 93%, 78%, 55%, 39%, and 41% aa sequence identity with equine, goat, ovine, porcine, human, mouse, and rat IL-4, respectively. IL-4 exerts its effects through two receptor complexes (6, 7). 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 β 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 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 (8-11). IL-4 plays a dominant role in the development of allergic inflammation and asthma (10, 12).

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