

DESCRIPTION

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| Species Reactivity | Porcine |
| Specificity | Detects porcine IL-4 in direct ELISAs and Western blots. Does not cross-react with recombinant human IL-13 or with recombinant IL-4 from human, canine, bovine, mouse, rat, cotton rat, or feline systems. |
| Source | Monoclonal Mouse IgG ₁ Clone # 99605 |
| Purification | Protein A or G purified from hybridoma culture supernatant |
| Immunogen | <i>E. coli</i> -derived recombinant porcine IL-4 His25-Cys133 Accession # Q04745 |
| Conjugate | Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm |
| Formulation | Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *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.

| | Recommended Concentration | Sample |
|---|----------------------------------|---|
| Intracellular Staining by Flow Cytometry | 0.25-1 µg/10 ⁶ cells | Porcine peripheral blood mononuclear cells fixed with paraformaldehyde and permeabilized with saponin |

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. <ul style="list-style-type: none"> ● 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 - 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). Porcine IL-4 is synthesized with a 24 amino acid (aa) signal sequence. Mature porcine IL-4 shares 78%, 59%, 41%, and 41% aa sequence identity with bovine, human, mouse, and rat IL-4, respectively. Human IL-4 is active on porcine vascular endothelial cells (5). 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 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 (8, 11). IL-4 plays a dominant role in the development of allergic inflammation and asthma (10, 12).

References:

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