

**DESCRIPTION**

<b>Species Reactivity</b>	Porcine
<b>Specificity</b>	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.
<b>Source</b>	Monoclonal Mouse IgG <sub>1</sub> Clone # 99605
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant porcine IL-4 His25-Cys133 Accession # Q04745
<b>Conjugate</b>	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
<b>Formulation</b>	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.

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

**PREPARATION AND STORAGE**

<b>Shipping</b>	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<b>Protect from light. Do not freeze.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, 2 to 8 °C as supplied.</li> </ul>

**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<sup>+</sup> 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<sup>+</sup> 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:**

1. Benczik, M. and S.L. Gaffen (2004) *Immunol. Invest.* **33**:109.
2. Chomarat, P. and J. Banchereau (1998) *Int. Rev. Immunol.* **17**:1.
3. Bailey, M. *et al.* (1993) *Biochim. Biophys. Acta* **1171**:328.
4. Redfield, C. *et al.* (1991) *Biochemistry* **30**:11029.
5. Stocker, C.J. *et al.* (2000) *J. Immunol.* **164**:3309.
6. Mueller, T.D. *et al.* (2002) *Biochim. Biophys. Acta* **1592**:237.
7. Nelms, K. *et al.* (1999) *Annu. Rev. Immunol.* **17**:701.
8. Paludan, S.R. (1998) *Scand. J. Immunol.* **48**:459.
9. Corthay, A. (2006) *Scand. J. Immunol.* **64**:93.
10. Ryan, J.J. *et al.* (2007) *Crit. Rev. Immunol.* **27**:15.
11. Grone, A. (2002) *Vet. Immunol. Immunopathol.* **88**:1.
12. Rosenberg, H.F. *et al.* (2007) *J. Allergy Clin. Immunol.* **119**:1303.

# Porcine IL-4 Alexa Fluor® 488-conjugated Antibody

Monoclonal Mouse IgG<sub>1</sub> Clone # 99605

Catalog Number: IC6543G  
100 µg

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