Species Reactivity: Porcine
Specificity: Detects porcine IL-4 in ELISAs and Western blots. In direct ELISAs, this antibody shows less than 10% cross-reactivity with recombinant mouse IL-4 and recombinant rat IL-4.
Source: Polyclonal Goat IgG
Purification: Antigen Affinity-purified
Immunogen: E. coli-derived recombinant porcine IL-4
Accession #: Q04745
Endotoxin Level: <0.10 EU per 1 μg of the antibody by the LAL method.
Formulation: Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

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.

Western Blot
0.1 μg/mL Recombinant Porcine IL-4 (Catalog # 654-P4)
Immunocytochemistry
5-15 μg/mL Porcine IL-4 Antibody (Catalog # AF654)

Porcine IL-4 Sandwich Immunoassay
ELISA Capture
0.2-0.8 μg/mL Porcine IL-4 Antibody (Catalog # AF654)
ELISA Detection
0.1-0.4 μg/mL Porcine IL-4 Biotinylated Antibody (Catalog # BAF654)

Neutralization
Measured by its ability to neutralize IL-4-induced proliferation in the TF-1 human erythroleukemic cell line. The Neutralization Dose (ND_{50}) is typically 1-5 μg/mL in the presence of 2 ng/mL Recombinant Porcine IL-4.

DATA
Cell Proliferation Induced by IL-4 and Neutralization by Porcine IL-4 Antibody. Recombinant Porcine IL-4 (Catalog # 654-P4) stimulates proliferation in the TF-1 human erythroleukemic cell line in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Porcine IL-4 (2 ng/mL) is neutralized (green line) by increasing concentrations of Porcine IL-4 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF654). The ND_{50} is typically 1-5 μg/mL.

Immunochemistry
IL-4 in Porcine PBMCs. IL-4 was detected in immersion fixed porcine peripheral blood mononuclear cells (PBMCs) using Goat Anti-Porcine IL-4 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF654) at 5 μg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (red; Catalog # NL001) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for Fluorescent ICC Staining of Non-adherent Cells.

PREPARATION AND STORAGE
Reconstitution: Reconstitute at 0.2 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.
- 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.
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 non-hematopoietic 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: