

DESCRIPTION	
Species Reactivity	Porcine
Specificity	Detects porcine IL-5 in direct ELISAs and Western blots. In direct ELISAs, less than 50% cross-reactivity with recombinant canine IL-5 and recombinant feline IL-5 is observed and less than 30% cross-reactivity with recombinant human IL-5, recombinant mouse IL-5, and recombinant rat IL-5 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant porcine IL-5 Ile20-Ser134 Accession # Q9MYM5
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. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

APPLICATIONS		
Please Note: Optimal dilutions should be determined by each laboratory for each application. <i>General Protocols</i> are available in the <i>Technical Information</i> section on our website.		
	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Porcine IL-5 (Catalog # 3137-PL)
Immunocytochemistry	5-15 µg/mL	See Below
Neutralization	Measured by its ability to neutralize IL-5-induced proliferation in the TF-1 human erythroleukemic cell line. Kitamura, T. <i>et al.</i> (1989) <i>J. Cell Physiol.</i> 140 :323. The Neutralization Dose (ND ₅₀) is typically 2-8 µg/mL in the presence of 25 ng/mL Recombinant Porcine IL-5.	

DATA		
<p>Neutralization</p> <p>Cell Proliferation Induced by IL-5 and Neutralization by Porcine IL-5 Antibody. Recombinant Porcine IL-5 (Catalog # 3137-PL) stimulates proliferation in the TF-1 human erythroleukemic cell line in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Porcine IL-5 (25 ng/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Porcine IL-5 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF3137). The ND₅₀ is typically 2-8 µg/mL.</p>	<p>Immunocytochemistry</p> <p>IL-5 in Porcine PBMCs. IL-5 was detected in immersion fixed porcine peripheral blood mononuclear cells treated with calcium ionomycin and PMA using Goat Anti-Porcine IL-5 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF3137) at 15 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.</p>	

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	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> ● 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.

BACKGROUND

Interleukin-5 (IL-5) is a secreted disulfide-linked homodimeric glycoprotein that belongs to the α -helical group of cytokines that includes IL-3, IL-5 and GM-CSF (1-3). IL-5 is primarily produced by CD4⁺ Th2 cells, but eosinophils and mast cells also produce IL-5. Porcine IL-5 is synthesized as a 134 amino acid (aa) precursor that contains a 19 aa signal sequence and a 115 aa mature segment (5). Four α -helices and two cysteines that form interchain disulfide bonds with a second, antiparallel IL-5 molecule are conserved among species (3 - 5). Monomeric IL-5 is a predicted 14 kDa protein but usage of N-linked glycosylation sites may increase its molecular weight (5). Mature porcine IL-5 shares 90%, 88%, 86%, 85%, 84%, 66%, 68%, 63%, 63% and 59% aa sequence identity with mature bovine, sheep, cat, equine, canine, human, guinea pig, cotton rat, murine and rat IL-5, respectively. Recombinant porcine IL-5 induced proliferation in the human TF-1 cell line (5). The receptor for human IL-5 consists of a 60 kDa ligand-binding subunit (IL-5 R α) and a 120 kDa signal-transducing subunit (β_c). It is suggested that dimeric IL-5 binding to IL-5 R α recruits β_c , which subsequently covalently links with IL-5 R α . Two receptor complexes then associate to form the physiologic IL-5 receptor (6, 7). IL-5 binds proteoglycans, potentially enhancing its activity (8). Following receptor binding, IL-5 promotes the maturation, activation and migration of eosinophils, as demonstrated during asthmatic eosinophilic lung inflammation (1-3). It also mobilizes eosinophils and CD34⁺ progenitors from marrow. It also enhances Ig release from B cells and contributes to IL-4 production. Finally, it primes basophils for histamine and leukotriene release (1, 2, 9).

References:

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