

**DESCRIPTION**

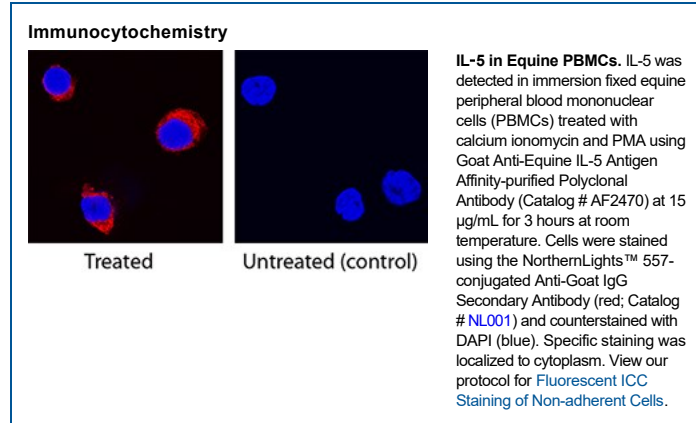
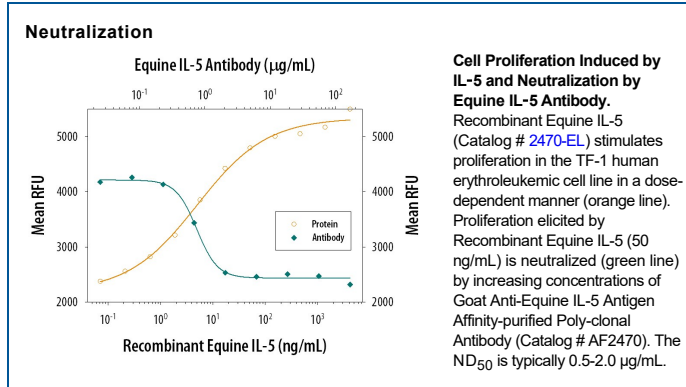
<b>Species Reactivity</b>	Equine
<b>Specificity</b>	Detects equine IL-5 in direct ELISAs and Western blots.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant equine IL-5 Leu20-Gly134 Accession # O02699
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the antibody by the LAL method.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

**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>Western Blot</b>	0.1 µg/mL	Recombinant Equine IL-5 (Catalog # 2470-EL)
<b>Immunocytochemistry</b>	10-25 µg/mL	See Below
<b>Neutralization</b>	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> <b>140</b> :323. The Neutralization Dose (ND <sub>50</sub> ) is typically 0.5-2.0 µg/mL in the presence of 50 ng/mL Recombinant Equine IL-5.	

**DATA**



**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile PBS.
<b>Shipping</b>	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
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

#### BACKGROUND

Interleukin-5 (IL-5) is a 40 kDa, secreted, heparin-binding, disulfide-linked homodimeric glycoprotein that belongs to the  $\alpha$ -helical group of cytokines (1-3). IL-5 is primarily produced by CD4<sup>+</sup> Th2 cells, but other cell types such as eosinophils, endothelial cells, mast cells, visceral (airway) smooth muscle cells, bronchial epithelium, CD16<sup>+</sup> NK cells and  $\gamma\delta$  T cells can also produce IL-5. Equine IL-5 is synthesized as a 134 amino acid (aa) precursor that contains a 19 aa signal sequence and a 115 aa mature segment. There are four  $\alpha$ -helices, two potential N-linked glycosylation sites, and two cysteines that form interchain disulfide bonds with a second, antiparallel IL-5 molecule (3, 4). While human and mouse IL-5 have a potential NLS in their sequence, it is unclear if equine IL-5 has such a sequence. Mature horse IL-5 shares 71%, 89%, 88%, 83%, 66% and 63% aa sequence identity with mature human, bovine, feline, canine, mouse and rat IL-5, respectively.

The receptor for IL-5 consists of a 60 kDa ligand-binding subunit (IL-5 R $\alpha$ ) and a 120 kDa signal-transducing subunit ( $\beta_c$ ). It is suggested that dimeric IL-5 binding to IL-5 R $\alpha$  recruits  $\beta_c$ , which subsequently covalently links with IL-5 R $\alpha$ . This trimeric complex then associates with another trimeric complex to form the physiologic IL-5 receptor (6). Following binding, IL-5 has targeted effects. It promotes the maturation and migration of eosinophils, partially through the effects of eotaxin. It mobilizes eosinophils and CD34<sup>+</sup> 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, 7).

#### References:

1. Lalani, T. *et al.* (1999) *Ann. Allergy Asthma Immunol.* **82**:317.
2. Martinez-Moczygemba, M. and D.P. Huston (2003) *J. Allergy Clin. Immunol.* **112**:653.
3. Zabeau, L. *et al.* (2003) *Curr. Drug Targets Inflamm. Allergy* **2**:319.
4. Vandergriff, E.V. and D.W. Horohov (1998) GenBank Accession # O02699.
5. Geijsen, N. *et al.* (2001) *Cytokine Growth Factor Rev.* **12**:19.
6. Bagley, C.J. *et al.* (1997) *Blood* **89**:1471.
7. Mattes, J. and P.S. Foster (2003) *Curr. Drug Targets Inflamm. Allergy* **2**:169.