

DESCRIPTION	
<b>Species Reactivity</b>	Mouse/Rat
<b>Specificity</b>	Detects mouse, rat, and cotton rat IL-10 in direct ELISAs and Western blots. In direct ELISAs, approximately 10% cross-reactivity with recombinant human IL-10, recombinant guinea pig IL-10, recombinant viral IL-10 and recombinant canine IL-10 is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant rat IL-10 Ser19-Asn178 Accession # P29456
<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 as a 0.2 µm filtered solution in PBS.

APPLICATIONS		
<b>Please Note:</b> 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.		
	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	0.1 µg/mL	See Below
<b>Immunocytochemistry</b>	5-15 µg/mL	Immersion fixed rat splenocytes
<b>Neutralization</b>	Measured by its ability to neutralize IL-10-induced proliferation in the MC/9-2 mouse mast cell line. Thompson-Snipes, L. <i>et al.</i> (1991) <i>J. Exp. Med.</i> <b>173</b> :507. The Neutralization Dose (ND <sub>50</sub> ) is typically 0.3-1.0 µg/mL in the presence of 40 ng/mL Recombinant Rat IL-10.	

DATA	
<p><b>Western Blot</b></p> <p><b>Detection of Recombinant Mouse and Rat IL-10 by Western Blot.</b> Western blot shows 25 ng of Recombinant Mouse IL-10 (Catalog # 417-ML), Recombinant Human IL-10 (Catalog # 217-IL), Recombinant Rat IL-10 (Catalog # 522-RLB), and Recombinant Human IL-26/AK155 Monomer (Catalog # 1375-IL). PVDF Membrane was probed with 0.1 µg/mL of Goat Anti-Mouse/Rat IL-10 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF519) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). A specific band was detected for IL-10 at approximately 16 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 3.</p>	<p><b>Neutralization</b></p> <p><b>Cell Proliferation Induced by IL-10 and Neutralization by Rat IL-10 Antibody.</b> Recombinant Rat IL-10 (Catalog # 522-RL) stimulates proliferation in the MC/9-2 mouse mast cell line in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Rat IL-10 (40 ng/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Rat IL-10 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF519). The ND<sub>50</sub> is typically 0.3-1.0 µg/mL.</p>

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 10, also known as cytokine synthesis inhibitory factor (CSIF), is the charter member of the IL-10 family of  $\alpha$ -helical cytokines that also includes IL-19, IL-20, IL-22, and IL-24 (1, 2). IL-10 is secreted by many activated hematopoietic cell types as well as hepatic stellate cells, keratinocytes, and placental cytotrophoblasts (2-5). Mature rat IL-10 shares 85% amino acid sequence identity with mouse and 71%-79% amino acid sequence identity with bovine, canine, equine, feline, human, ovine, and porcine IL-10. Whereas human IL-10 is active on mouse cells, mouse IL-10 does not act on human cells (6, 7). IL-10 is a 178 amino acid molecule that contains two intrachain disulfide bridges and is expressed as a 36 kDa noncovalently associated homodimer (8-10). The IL-10 dimer binds to two IL-10 R $\alpha$ /IL-10 R1 chains, resulting in recruitment of two IL-10 R $\beta$ /IL-10R2 chains and activation of a signaling cascade involving JAK1, TYK2, and STAT3 (11). IL-10 R $\beta$  does not bind IL-10 by itself but is required for signal transduction (1). IL-10 R $\beta$  also associates with IL-20 R $\alpha$ , IL-22 R $\alpha$ , or IL-28 R $\alpha$  to form the receptor complexes for IL-22, IL-26, IL-28, and IL-29 (12-14). IL-10 is a critical molecule in the control of viral infections and allergic and autoimmune inflammation (15-17). It promotes phagocytic uptake and Th2 responses but suppresses antigen presentation and Th1 proinflammatory responses (2).

**References:**

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