

## DESCRIPTION

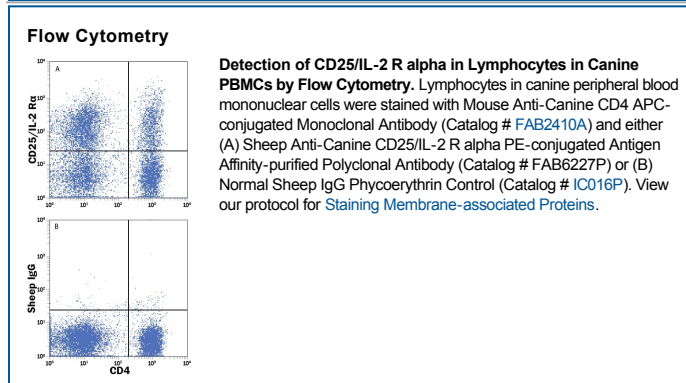
<b>Species Reactivity</b>	Canine
<b>Specificity</b>	Detects canine IL-2 R $\alpha$ in direct ELISAs. In direct ELISAs, less than 5% cross-reactivity with recombinant human IL-2 R $\alpha$ , recombinant mouse IL-2 R $\alpha$ , and recombinant rat IL-2 R $\alpha$ is observed.
<b>Source</b>	Polyclonal Sheep IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant canine IL-2 R $\alpha$ Tyr19-Ile238 Accession # O62802
<b>Conjugate</b>	Phycoerythrin Excitation Wavelength: 488 nm Emission Wavelength: 565-605 nm
<b>Formulation</b>	Supplied 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.

	Recommended Concentration	Sample
<b>Flow Cytometry</b>	10 $\mu$ L/10 <sup>6</sup> cells	See Below

## DATA



## 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**

IL-2 receptor alpha (IL-2 R $\alpha$ ), also known as CD25, is a 55-57 kDa type I transmembrane glycoprotein that belongs to the family of cytokine receptors that utilize the common gamma chain subunit ( $\gamma_c$ ). IL-2 R $\alpha$  is primarily expressed on activated T cells, mast cells and on regulatory T cells plus regulatory B cells (1-3). The canine IL-2 R $\alpha$  cDNA encodes a 268 amino acid (aa) precursor that includes a 21 aa signal peptide, a 216 aa extracellular domain (ECD) with two Sushi domains, a 21 aa transmembrane segment, and a 10 aa cytoplasmic domain (4). Within the ECD, canine IL-2 R $\alpha$  shares 49%-60% aa sequence identity with human, mouse, and rat IL-2 R $\alpha$ . IL-2 R $\beta$  (CD122) and  $\gamma_c$  (IL-2 R $\gamma$ /CD132) dimerize to form a constitutively expressed intermediate affinity IL-2 receptor (1, 5, 6). By itself, IL-2 R $\alpha$  binds IL-2 with low affinity. It associates with IL-2 R $\beta$  and  $\gamma_c$  to generate a ternary high affinity IL-2 receptor complex (7). A soluble form of IL-2 R $\alpha$  can be generated by proteolytic cleavage of the cell surface receptor, rendering the T cell unresponsive to IL-2 (8). In human, increased serum levels of soluble IL-2 R $\alpha$  are found in some cancers and autoimmune disorders (9, 10). IL-2 R $\alpha$  is required for activation induced cell death (AICD) of naive T cells, a mechanism responsible for deleting autoreactive T cell clones (11, 12). IL-2 R $\alpha$  is also required for the development of CD4<sup>+</sup>CD25<sup>+</sup> Treg which suppress autoreactive CD4<sup>+</sup> T cells, thereby contributing to peripheral T cell homeostasis (11-13).

**References:**

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