

## DESCRIPTION

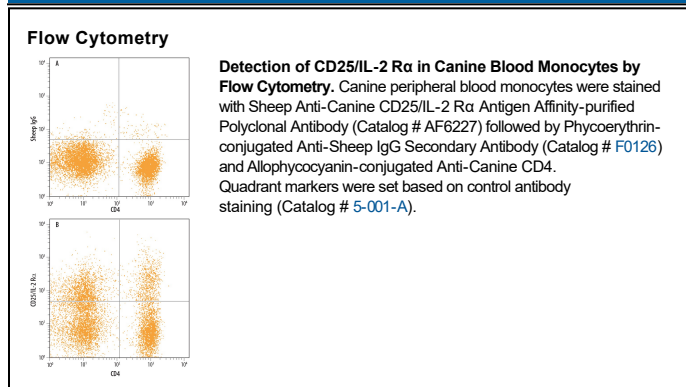
<b>Species Reactivity</b>	Canine
<b>Specificity</b>	Detects canine CD25/IL-2 R $\alpha$ in direct ELISAs. In direct ELISAs, less than 5% cross-reactivity with recombinant human CD25/IL-2 R $\alpha$ , recombinant mouse CD25/IL-2 R $\alpha$ , and recombinant rat CD25/IL-2 R $\alpha$ is observed.
<b>Source</b>	Polyclonal Sheep IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant canine CD25/IL-2 R $\alpha$ Tyr19-Ile238 Accession # BAI49682
<b>Formulation</b>	Lyophilized from a 0.2 $\mu$ m 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 $\mu$ m 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.

	Recommended Concentration	Sample
<b>Flow Cytometry</b>	2.5 $\mu$ g/10 <sup>6</sup> cells	See Below
<b>CyTOF-ready</b>	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

## DATA



## PREPARATION AND STORAGE

<b>Reconstitution</b>	Sterile PBS to a final concentration of 0.2 mg/mL.
<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**

IL-2 receptor alpha (IL-2 R $\alpha$ ), also known as CD25, is a 55 kDa type I membrane 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 and on regulatory T cells (Treg) (1-3). The canine IL-2 R $\alpha$  cDNA encodes a 268 amino acid (aa) precursor that includes a 20 aa signal peptide, a 217 aa extracellular domain (ECD) with two Sushi domains, a 19 aa transmembrane segment, and an 12 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 (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, 9). Increased serum levels of soluble IL-2 R $\alpha$  are found in some cancers and immune disorders (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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