

#### DESCRIPTION

|                           |  |
|---------------------------|--|
| <b>Species Reactivity</b> | Mouse  |
| <b>Specificity</b>        | Detects mouse CD25/IL-2 R $\alpha$ in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant mouse (rm) $\gamma_c$ , recombinant human CD25/IL-2 R $\alpha$ , rmlL-2 R $\beta$ , or rmlL-15 R is observed.  |
| <b>Source</b>             | Monoclonal Rat IgG <sub>2A</sub> Clone # 280406  |
| <b>Purification</b>       | Protein A or G purified from hybridoma culture supernatant   |
| <b>Immunogen</b>          | Mouse myeloma cell line NS0-derived recombinant mouse CD25/IL-2 R $\alpha$<br>Glu22-Lys236<br>Accession # P01590   |
| <b>Conjugate</b>          | Alexa Fluor 594<br>Excitation Wavelength: 590 nm<br>Emission Wavelength: 617 nm  |
| <b>Formulation</b>        | Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.<br><br>*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> | 0.25-1 µg/10 <sup>6</sup> cells | Mouse splenocytes treated overnight with anti-mouse CD3 (10 µg/mL; Catalog # MAB484), anti-mouse CD28 (5 µg/mL; Catalog # AF483), TGF-beta (10 ng/mL; Catalog # 100-B), and rmlL-2 (20 ng/mL; (Catalog # 1150-ML). |

#### 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 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 mouse IL-2 R $\alpha$  cDNA encodes a 268 amino acid (aa) precursor that includes a 21 aa signal peptide, a 215 aa extracellular domain (ECD) with two Sushi domains, a 21 aa transmembrane segment, and an 11 aa cytoplasmic domain (4, 5). Within the ECD, mouse IL-2 R $\alpha$  shares 81% and 58% aa sequence identity with rat and human IL-2 R $\alpha$ , respectively. It shares approximately 15% aa sequence identity with IL-4, -7, -9, -15, and -21 receptor subunits that also complex with  $\gamma_c$ . IL-2 R $\beta$  (CD122) and  $\gamma_c$  (IL-2 R $\gamma$ /CD132) dimerize to form a constitutively expressed intermediate affinity IL-2 receptor (6, 7). 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 (8). 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 (9, 10). Increased serum levels of soluble IL-2 R $\alpha$  are found in some cancers and immune disorders (11). 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 (12, 13). 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 (12-14).

#### References:

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# Mouse CD25/IL-2 R alpha Alexa Fluor® 594-conjugated Antibody

Monoclonal Rat IgG<sub>2A</sub> Clone # 280406

Catalog Number: FAB2438T  
100 µg

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