

DESCRIPTION

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| Species Reactivity | Rat |
| Specificity | Detects rat CD25/IL-2 Rα in direct ELISAs and Western blots. In direct ELISAs and Western blots, approximately 20% cross-reactivity with recombinant mouse CD25/IL-2 Rα is observed, approximately 10% cross-reactivity with recombinant human (|
| Source | Polyclonal Sheep IgG |
| Purification | Antigen Affinity-purified |
| Immunogen | Chinese hamster ovary cell line CHO-derived recombinant rat CD25/IL-2 Rα Glu22-Gln235 Accession # P26897 |
| Conjugate | Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 nm |
| Formulation | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide |
| *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.

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| Western Blot | Optimal dilution of this antibody should be experimentally determined. |
| Immunocytochemistry | Optimal dilution of this antibody should be experimentally determined. |

PREPARATION AND STORAGE

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| Shipping | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| Stability & Storage | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied |

BACKGROUND

IL-2 receptor alpha (IL-2 Rα), 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 (γ_c). IL-2 Rα is primarily expressed on activated T cells and on regulatory T cells (Treg) (1-3). The rat IL-2 Rα cDNA encodes a 267 amino acid (aa) precursor that includes a 21 aa signal peptide, a 214 aa extracellular domain (ECD) with two Sushi domains, a 21 aa transmembrane segment, and an 11 aa cytoplasmic domain (4). Within the ECD, rat IL-2 Rα shares 58% and 81% aa sequence identity with human and mouse IL-2 Rα, respectively. It shares approximately 15% aa sequence identity with IL-4, -7, -9, -15, and -21 receptor subunits that also complex with γ_c. IL-2 Rβ (CD122) and γ_c (IL-2 Rγ/CD132) dimerize to form a constitutively expressed intermediate affinity IL-2 receptor (5, 6). By itself, IL-2 Rα binds IL-2 with low affinity. It associates with IL-2 Rβ and γ_c to generate a ternary high affinity IL-2 receptor complex (7). A soluble form of IL-2 Rα 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 Rα are found in some cancers and immune disorders (10). IL-2 Rα 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 Rα is also required for the development of CD4⁺CD25⁺ Treg which suppress autoreactive CD4⁺ T cells, thereby contributing to peripheral T cell homeostasis (11-13).

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