Mouse CD25/IL-2 R alpha Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF2438

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse CD25/IL-2 Rα in ELISAs and Western blots. In sandwich ELISAs, less than 0.1% cross-reactivity with recombinant human CD25/IL-2 Rα is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse CD25/IL-2 Rα Glu22-Lys236 Accession # Q544I2
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	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.

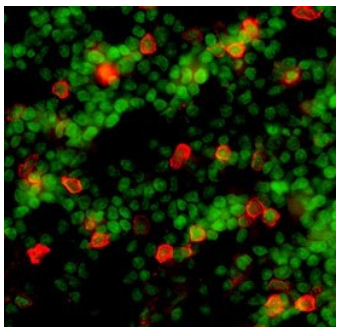
APPLICATIONS

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
Western Blot	0.1 µg/mL	Recombinant Mouse CD25/IL-2 Rα (Catalog # 2438-RM)
Immunohistochemistry	5-15 µg/mL	See Below
Mouse CD25/IL-2 Rα Sandwich Immunoassay		**Reagent**
ELISA Capture	0.2-0.8 µg/mL	Mouse CD25/IL-2 R alpha Antibody (Catalog # AF2438)
ELISA Detection	0.1-0.4 µg/mL	Mouse CD25/IL-2 R alpha Biotinylated Antibody (Catalog # BAF2438)
Standard		Recombinant Mouse CD25/IL-2 R alpha (Catalog # 2438-RM)
Neutralization	Measured by its ability to neutralize IL-2-induced proliferation in the CTLL-2 mouse cytotoxic T cell line. The Neutralization Dose (ND_{50}) is typically 5-20 µg/mL in the presence of 2 ng/mL Recombinant Mouse IL-2.	

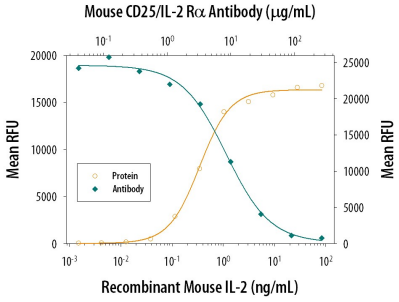
DATA

Immunohistochemistry



CD25/IL-2 Rα in Mouse Spleen. CD25/IL-2 Rα was detected in immersion fixed frozen sections of mouse spleen using 5 µg/mL Goat Anti-Mouse CD25/IL-2 Rα Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2438) overnight at 4 °C. Tissue was stained with the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (red; Catalog # NL001) and counterstained (green). View our protocol for Fluorescent IHC Staining of Frozen Tissue Sections.

Neutralization



Cell Proliferation Induced by IL-2 and Neutralization by Mouse CD25IL-2 Rα Antibody. Recombinant Mouse IL-2 (Catalog # 402-ML) stimulates proliferation in the CTLL-2 mouse cytotoxic T cell line in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Mouse IL-2 (2 ng/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Mouse CD25/IL-2 Rα Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2438). The ND_{50} is typically 5-20 µg/mL.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	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
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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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 mouse IL-2 Rα 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 Rα shares 81% and 58% aa sequence identity with rat and human 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 (6, 7). 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 (8). 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 (9, 10). Increased serum levels of soluble IL-2 Rα are found in some cancers and immune disorders (11). IL-2 Rα 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 Rα is also required for the development of $CD4^+CD25^+$ Treg which suppress autoreactive $CD4^+$ T cells, thereby contributing to peripheral T cell homeostasis (12-14).

References:

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