

DESCRIPTION

Source Human embryonic kidney cell, HEK293-derived human CD25/IL-2R alpha protein
Glu22-Cys213, with a C-terminal 6-His tag
Accession # P01589

N-terminal Sequence Analysis Glu22

Predicted Molecular Mass 23 kDa

SPECIFICATIONS

SDS-PAGE 35-43 kDa, under reducing conditions

Activity Measured by its ability to inhibit the IL-2-dependent proliferation of MO7e human megakaryocytic leukemic cells. Avanzi, G. *et al.* (1988) Br. J. Haematol. **69**:359.
The ED₅₀ for this effect is 0.15-1.2 µg/mL in the presence of 30 ng/mL of Recombinant Human IL-2 (Catalog # 202-IL)

Endotoxin Level <0.10 EU per 1 µg of the protein by the LAL method.

Purity >95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.

Formulation Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 500 µg/mL in PBS.

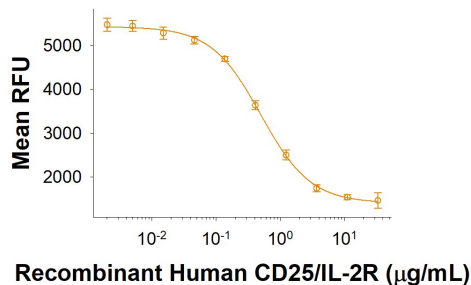
Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

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.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

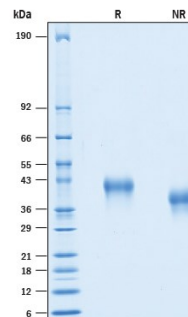
DATA

Bioactivity



Recombinant Human CD25/IL-2R alpha His-tag (Catalog # 10305-RL) inhibits IL-2 dependent cell proliferation of the MO7e human megakaryocytic leukemic cell line. The ED₅₀ for this effect is 0.15-1.2 µg/mL.

SDS-PAGE



2 µg/lane of Recombinant Human CD25/IL-2R alpha His-tag (Catalog # 10305-RL) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 35-43 kDa.

BACKGROUND

IL-2 receptor alpha (IL-2R 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). Human IL-2R alpha cDNA encodes a 213 amino acid (aa) precursor with a 21 aa signal peptide and a 192 aa extracellular region. The ECD of Human IL-2R alpha shares a 59% amino acid sequence identity with the ECD of mouse and rat IL-2R alpha, respectively. IL-2R alpha is primarily expressed on activated T cells and on regulatory T cells (Treg) (1-3). IL-2R beta (CD122) and γ c (IL-2R gamma /CD132) dimerize to form a constitutively expressed intermediate affinity IL-2 receptor (4, 5). By itself, IL-2R alpha binds IL-2 with low affinity. IL-2R alpha makes no contacts with IL-2R beta or γ c, and only minor changes are observed in the IL-2 structure in response to receptor binding. These findings support the principal role of IL-2R alpha to deliver IL-2 to the signaling complex and act as regulator of signal transduction (6, 7). A soluble form of IL-2R 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-2R alpha are found in some cancers and immune disorders (10). IL-2R 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-2R alpha is also required for the development of CD4+CD25+ Treg which suppresses autoreactive CD4+ T cells, thereby contributing to peripheral T cell homeostasis (11-13).

References:

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