

CD25/IL2R alpha Protein, Rat, Recombinant (His & Avi), Biotinylated

General Information

Synonyms:	IL2ra;IL2RAC
Protein Construction:	A DNA sequence encoding the Rat IL2RA (NP_037295.1) (Met1-Gln235) was expressed with a C-terminal polyhistidine tag followed by an AVI tag. The expressed protein was biotinylated in vivo by the Biotin-Protein ligase (BirA enzyme) which is co-expressed.
Species:	Rat
Expression Host:	Baculovirus Insect Cells
Accession:	P26897
Molecular Weight:	27.72 kDa (predicted); 41.2 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Immobilized Recombinant Rat CD25 / IL-2R alpha Protein (ECD, His & AVI Tag), Biotinylated at 2 µg/mL (100 µL/well) on streptavidin precoated (2 µg/mL, 100 µL/well) can bind Recombinant Human IL2 Protein, Low Endotoxin, the EC50 is 5-15 ng/mL.
Purity:	≥ 95% as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from sterile 20 mM Tris, 300 mM NaCl, 10% Glycerol, pH 7.5. Please contact us for any concerns or special requirements. Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization. Please refer to the specific buffer information in the hardcopy of datasheet or the lot-specific COA.

Preparation and Storage

Reconstitution:
Please refer to the lot-specific COA.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

CD25 (alpha-chain of the IL-2 receptor, or IL2RA), is a type I transmembrane glycoprotein with a signal peptide, an extracellular region, a transmembrane region, and a cytoplasmic domain. IL2RA is expressed on activated T cells

and regulatory T cells and is capable of binding IL2 with low affinity by itself. However, a ligand-induced high-affinity heterotrimeric receptor complex is produced when IL2RA is associated non-covalently with the IL2 receptor beta and gamma chain, and subsequently initiates the intracellular signal pathways such as MAPK or JAK/STAT. On dendritic cells (DC), CD25 has been previously regarded as an activation marker, while both murine and human DC can express CD25, they do not express the beta-chain of the IL-2 receptor, which is indispensable for the execution of IL-2 signaling. The IL2RA (CD25) gene is a substantial component of the high-affinity receptor molecule highly expressed by activated T lymphocytes. Recently, a piece of strong evidence was obtained for the involvement of IL-2RA in conferring susceptibility to type 1 diabetes (T1D). Cancer growth and development are associated with the stimulation of the innate immune system, including enhanced interleukin 2 receptor (IL-2R) expression in immune cells and its shedding into the circulation in a soluble form of sIL-2Ralpha. In most hematological malignancies, including different types of leukemias and lymphomas, sIL-2Ralpha is released directly from the surface of neoplastic cells thus reflecting the tumor bulk, turnover, and activity. Several studies have proved that not only lymphoid cancer cells but also some non-lymphoid cancer cells, express IL-2R on their surface. They include malignant melanoma and carcinomas of the kidney, head and neck, esophagus, and lung. Thus, sIL-2Ralpha is elevated in most proliferative disturbances of the hematopoietic system and many solid tumors. Cancer Immunotherapy Immune Checkpoint Immunotherapy Targeted Therapy

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