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Product Information

MemDX™ Antibody Discovery - Human IL-2 R beta&IL-2 R alpha&IL-2 R gamma (27-239(IL-2RB)&22-212(IL-2RA)&23-254(IL-2RG)) Membrane Protein, Partial

Cat. No.: **MPX4725K**
This product is for research use only and is not intended for diagnostic use.

This membrane protein is Human IL-2 R beta&IL-2 R alpha&IL-2 R gamma. We provide this protein to facilitate your membrane protein antibody discovery and development.

Product Specifications

Host Species
Human

Target Protein
IL-2 R beta&IL-2 R alpha&IL-2 R gamma

Protein Length
ECD

Protein Class
Receptor

Molecular Weight
51.1 kDa (IL-2RB) and 75.4 kDa (IL-2RA&IL-2RG)

TMD
1

Sequence
AA Ala 27 - Asp 239 & Glu 22 - Ser 212 & Leu 23 - Asn 254 (Accession # P14784-1(IL-2RB) & P01589-1(IL-2RA) & P31785-1(IL-2RG))

Product Description

Activity
Yes

Expression Systems
HEK293

Tag
Subunit IL-2RB is fused with a human IgG1 Fc tag at the C-terminus and subunit IL-2RA&IL-2RG is fused with a human IgG1 Fc tag at the C-terminus.

Protein Format

Soluble

Form

LYOPH

Reconstitution

Please see Certificate of Analysis for specific instructions.

Endotoxin

<1.0 EU per μg by the LAL method

Purity

>95% as determined by SDS-PAGE.
>90% as determined by SEC-MALS.

Buffer

Lyophilized from 0.22 μm filtered solution in PBS, pH7.4

Storage

Aliquot and store at -20°C or lower. For long term storage, we recommend to store at -70°C or lower. Avoid freeze/thaw cycles.

Target

Target Protein

IL-2 R beta&IL-2 R alpha&IL-2 R gamma

Full Name

Interleukin 2 receptor subunit beta & Interleukin 2 receptor subunit alpha & Interleukin 2 receptor subunit gamma

Introduction

The interleukin 2 receptor, which is involved in T cell-mediated immune responses, is present in 3 forms with respect to ability to bind interleukin 2. The low affinity form is a monomer of the alpha subunit and is not involved in signal transduction. The intermediate affinity form consists of an alpha/beta subunit heterodimer, while the high affinity form consists of an alpha/beta/gamma subunit heterotrimer. Both the intermediate and high affinity forms of the receptor are involved in receptor-mediated endocytosis and transduction of mitogenic signals from interleukin 2. The protein encoded by this gene represents the beta subunit and is a type I membrane protein. The use of alternative promoters results in multiple transcript variants encoding the same protein. The protein is primarily expressed in the hematopoietic system. The use by some variants of an alternate promoter in an upstream long terminal repeat (LTR) results in placenta-specific expression.
The interleukin 2 (IL2) receptor alpha (IL2RA) and beta (IL2RB) chains, together with the common gamma chain (IL2RG), constitute the high-affinity IL2 receptor. Homodimeric alpha chains (IL2RA) result in low-affinity receptor, while homodimeric beta (IL2RB) chains produce a medium-affinity receptor. Normally an integral-membrane protein, soluble IL2RA has been isolated and determined to result from extracellular proteolyisis. Alternately-spliced IL2RA mRNAs have been isolated, but the significance of each is presently unknown. Mutations in this gene are associated with interleukin 2 receptor alpha deficiency. Patients with severe Coronavirus Disease 2019 (COVID-19), the disease caused by the novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), have significantly elevated levels of IL2R in their plasma. Similarly, serum IL-2R levels are found to be elevated in patients with different types of carcinomas. Certain IL2RA and IL2RB gene polymorphisms have been associated with lung cancer risk.
The protein encoded by this gene is an important signaling component of many interleukin receptors, including those of interleukin -2, -4, -7 and -21, and is thus referred to as the common gamma chain. Mutations in this gene cause X-linked severe combined immunodeficiency (XSCID), as well as X-linked combined immunodeficiency (XCID), a less severe immunodeficiency disorder.

Alternative Names

IL-2 R beta&IL-2 R alpha&IL-2 R gamma; IL-2RB&IL-2RA&IL-2RG

Gene ID

3560 & 3559 & 3561

UniProt ID

P14784 & P01589 & P31785

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