

DESCRIPTION

Source Mouse myeloma cell line, NS0-derived mouse CD4 protein
Lys27-Thr394, with a C-terminal 6-His tag
Accession # P06332.1

N-terminal Sequence Analysis Lys27

Predicted Molecular Mass 42 kDa

SPECIFICATIONS

SDS-PAGE 50-60 kDa, under reducing conditions

Activity Measured by the ability of the immobilized protein to support the adhesion of NIH-3T3 mouse embryonic fibroblast cells.
The ED₅₀ for this effect is 2-12 µg/mL.

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 with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 500 µg/mL in PBS.

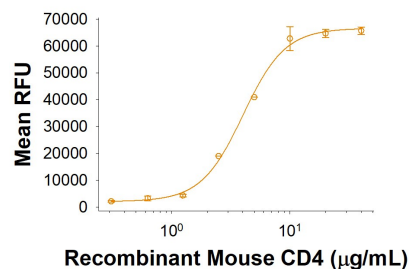
Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

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.

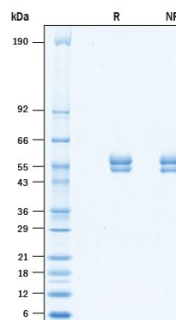
DATA

Bioactivity



Immobilized Recombinant Mouse CD4 His-tag Protein (Catalog # 10476-CD) supports the adhesion of NIH-3T3 mouse embryonic fibroblast cells. The ED₅₀ for this effect is 2-12 µg/mL.

SDS-PAGE



2 µg/lane of Recombinant Mouse CD4 His-tag Protein (Catalog # 10476-CD) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 50-60 kDa.

BACKGROUND

CD4, also known as L3T4, T4, and W3/25, is an approximately 42-kDa type I transmembrane glycoprotein that is expressed predominantly on thymocytes and a subset of mature T lymphocytes. It is a standard phenotype marker for the identification of T cell populations (1). Mature mouse CD4 consists of a 394 amino acid (aa) extracellular region containing four immunoglobulin-like domains, a 22 aa transmembrane segment, and a 39 aa cytoplasmic domain (2). Within the ECD, mouse CD4 shares approximately 52% and 73% aa sequence identity with human and rat CD4, respectively. CD4 is expressed along with CD8 on double positive T cells during their development in the thymus. Either CD4 or CD8 expression is then lost, giving rise to single positive (SP) CD4+ or CD8+ mature T cells (3). CD4+ SP cells, also known as T helper cells, further differentiate into multiple subsets of CD4+ cells including Th1, Th2, Th17, Tfh, and Treg cells which regulate humoral and cellular immunity (4). CD4 is reexpressed on circulating CD8+ T cells upon activation and contributes to their cytotoxic effector activity (5). CD4 distribution between species cannot be assumed as demonstrated by its presence on macrophages in human and rat but not in mouse (6). CD4 binds directly to MHC class II molecules on antigen presenting cells (10). This interaction contributes to the formation of the immunological synapse which is focused around the TCR-MHC class II-antigenic peptide interaction (1, 11). Palmitoylation of two cysteine residues in the cytoplasmic tail of CD4 promotes the localization of CD4 in lipid rafts and its ability to augment TCR signaling via activation of the tyrosine kinase Lck (12). CD4 also functions as a chemotactic receptor for IL-16 and, in human, as a co-receptor for the gp120 surface glycoprotein of HIV-1 (7, 13-15).

References:

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