Recombinant human CD4

Catalog No: #AG0059

Orders: order@signalwayantibody.com
Support: tech@signalwayantibody.com

Description

Product Name	Recombinant human CD4
Host Species	HEK293
Purification	> 95% by Tris-Bis PAGE;> 95% by SEC-HPLC
Immunogen Description	Lys26-Ile458
Target Name	CD4
Other Names	CD_antigen: CD4; CD4 antigen (p55); CD4 antigen; CD4 molecule; CD4 receptor; CD4; CD4mut; T-cell surface antigen T4/Leu-3; T-cell surface glycoprotein CD4
Accession No.	Uniprot:P01730Gene ID:920
Uniprot	P01730
GeneID	920
Target Species	human
Calculated MW	41 KDa
Tag Info	C-His-Tag
Formulation	0.22 μm filtered solution of PBS, pH 7.4.
Storage	Aliquot and store at -80°C. Avoid repeated freeze/thaw cycles.

Background

CD4, also known as L3T4, T4, and W3/25, is an approximately 55 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 human CD4 consists of a 371 amino acid (aa) extracellular region containing four immunoglobulin-like domains, a 22 aa transmembrane segment, and a 40 aa cytoplasmic domain (2). Within the ECD, human CD4 shares approximately 52% aa sequence identity with mouse and rat CD4. 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). In human, CD4 is additionally expressed on macrophages, neutrophils, monocytes, NK cells, and neurons and glial cells in the brain (6-9). Similar 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).

Note: This product is for in vitro research use only