

DESCRIPTION

Source Mouse myeloma cell line, NS0-derived
Arg25-Asn371, with a C-terminal 10-His tag
Accession # P06127

N-terminal Sequence Analysis Arg25

Structure / Form Monomer

Predicted Molecular Mass 39.9 kDa

SPECIFICATIONS

SDS-PAGE 55 kDa, reducing conditions

Activity Measured by its binding ability in a functional ELISA.
When Zymosan is coated at 200 µg/mL (100 µL/well), the concentration of Recombinant Human CD5 that produces 50% optimal binding response is typically 0.6-3 µg/mL.

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

Purity >95%, by SDS-PAGE under reducing conditions and visualized by silver stain.

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

PREPARATION AND STORAGE

Reconstitution Reconstitute at 100 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.

BACKGROUND

CD5, also known as Leu-1, Ly-1, and T1, is a 67 kDa transmembrane glycoprotein in the scavenger receptor superfamily (1). Mature human CD5 consists of a 348 amino acid (aa) extracellular domain (ECD) with three scavenger receptor cysteine-rich (SRCR) domains, a 30 aa transmembrane segment, and a 93 aa cytoplasmic domain (2). Within the ECD, human CD5 shares 55% aa sequence identity with mouse and rat CD5. The 52 kDa ECD can be cleaved from the cell surface and circulates in the serum (3). CD5 has been shown to interact homophilically, with CD72 on B cells, and with beta-glucan components of fungal cell walls (4-6). CD5 expression on developing thymocytes is positively regulated by signaling through the T cell antigen receptor (TCR) and is up-regulated on tolerized peripheral CD4⁺ cells (7, 8). It inhibits TCR signaling and promotes T cell nonresponsiveness and survival (8-10). CD5 signaling inhibits the generation of regulatory T cells but promotes the development of Th17 cells (11, 12). Within the B cell lineage, CD5 is expressed on B-1a cells, anergic B cells, and IL-10 producing regulatory B cells (13-16). Similarly to on T cells, it negatively regulates signaling through the B cell antigen receptor and supports peripheral B cell survival, anergy, and tolerance (13, 14, 16). B cells can produce an intracellularly-retained form of CD5 which lacks the signal peptide and a portion of the first SRCR domain (17). CD5 is also involved in the cellular entry of hepatitis C virus into T cells (18).

References:

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