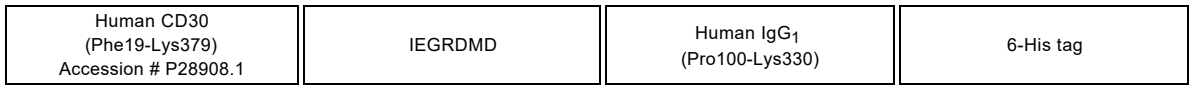
Recombinant Human CD30/TNFRSF8 Fc Chimera

Catalog Number: 813-CD

DESCRIPTION

Source

Mouse myeloma cell line, NS0-derived human CD30/TNFRSF8 protein



N-terminal Sequence Analysis	Phe19
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	66 kDa (monomer)

SPECIFICATIONS

SDS-PAGE	100-125 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When rhCD30 Ligand (Catalog # 1028-CL) is immobilized at 200 ng/well, the concentration of rhCD30/Fc Chimera that produces 50% of the optimal binding response is found to be approximately 1-5 ng/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. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/mL in sterile 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

CD30, also known as Ki-1 antigen and TNFRSF8, is a 120 kDa type I transmembrane glycoprotein belonging to the TNF receptor superfamily (1, 2). Mature human CD30 consists of a 361 amino acid (aa) extracellular domain (ECD) with six cysteine-rich repeats, a 28 aa transmembrane segment, and a 188 aa cytoplasmic domain (3). In contrast, mouse and rat CD30 lack 90 aa of the ECD and contain only three cysteine-rich repeats. Within common regions of the ECD, human CD30 shares 53% and 49% aa sequence identity with mouse and rat CD30, respectively. Alternate splicing of human CD30 generates an isoform that includes only the C-terminal 132 aa of the cytoplasmic domain. CD30 is normally expressed on antigen-stimulated Th cells and B cells (4 - 6). However, it is upregulated in Hodgkin's disease (on Reed-Sternberg cells), other lymphomas, chronic inflammation, and autoimmunity (7). CD30 binds to CD30 Ligand/TNFSF8 which is expressed on activated Th cells, monocytes, granulocytes and medullary thymic epithelial cells (1, 5). CD30 signaling costimulates antigen-induced Th0 and Th2 proliferation and cytokine secretion but favors a Th2-biased immune response (8). In the absence of antigenic stimulation, it can still induce T cell expression of IL-13 (9). CD30 contributes to thymic negative selection by inducing the apoptotic cell death of CD4+CD8+ T cells (10, 11). In B cells, CD30 ligation promotes cellular proliferation and antibody production in addition to the expression of CXCR4, CCL3, and CCL5 (5, 12). An 85 - 90 kDa soluble form of CD30 is shed from the cell surface by TACE-mediated cleavage (13, 14). Soluble CD30 retains the ability to bind CD30 Ligand and functions as an inhibitor of normal CD30 signaling (15).

References:

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