

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human CD30/TNFRSF8 in direct ELISAs and Western blots. In direct ELISAs, less than 1% cross-reactivity with recombinant mouse CD30, recombinant human (rh) CD27, and rhCD40 is observed.
Source	Monoclonal Mouse IgG _{2B} Clone # 81337
Purification	Protein A or G purified from ascites
Immunogen	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant human CD30/TNFRSF8 Phe19-Lys379 Accession # P28908
Endotoxin Level	<0.15 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Western Blot	1 µg/mL	Recombinant Human CD30/TNFRSF8 Fc Chimera (Catalog # 813-CD) under non-reducing conditions only
Flow Cytometry	0.25 µg/10 ⁶ cells	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	
Agonist Activity	Measured by its ability to stimulate human IL-6 secretion by HDLM-2 human Hodgkin's lymphoma cells. A Practical Approach. Clemens, M.J. <i>et al.</i> (eds): IRL Press. 272. The ED ₅₀ for this effect is typically 0.05 - 0.2 µg/mL.	

DATA

<p>Flow Cytometry</p> <p>Detection of CD30/TNFRSF8 in Jurkat Human Cell Line by Flow Cytometry. Jurkat human acute T cell leukemia cell line was stained with Mouse Anti-Human CD30/TNFRSF8 Monoclonal Antibody (Catalog # MAB229, filled histogram) or isotype control antibody (Catalog # MAB0041, open histogram), followed by Phycoerythrin-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # F0102B). View our protocol for Staining Membrane-associated Proteins.</p>	<p>Agonist Activity</p> <p>Human CD30/TNFRSF8 Antibody Enhances IL-6 Secretion in HDLM-2 Cells. Human CD30/TNFRSF8 Monoclonal Antibody enhances IL-6 secretion in the HDLM-2 human Hodgkin's lymphoma cell line, in a dose-dependent manner, as measured using the Quantikine Human IL-6 ELISA Kit (Catalog # D6050). The ED₅₀ for this effect is typically 0.05-0.2 µg/mL.</p>
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PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 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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