

DESCRIPTION

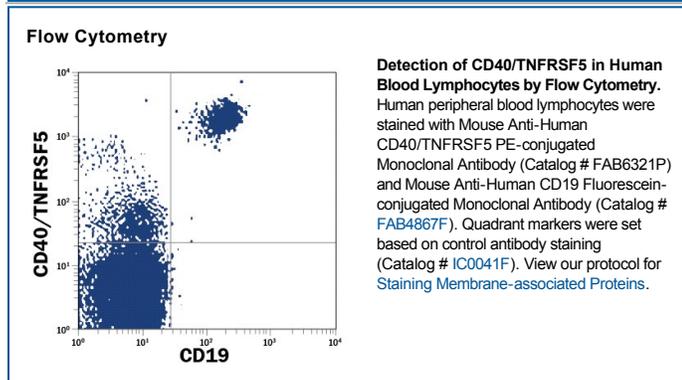
Species Reactivity	Human
Specificity	Detects human CD40/TNFRSF5 in direct ELISAs and Western blots. In direct ELISAs, does not cross-react with recombinant human (rh) 4-1BB, rhCD27, rhCD30, rhDR3, rhDR6, rhEDAR, rhFas, rhGITR, rhHVEM, rhLTRβ, rhNGF R, rhOPG, rhRANK, rhTAJ, rhTNF RI, rhTNF RII, or recombinant mouse CD40.
Source	Monoclonal Mouse IgG _{2B} Clone # 82111
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human CD40/TNFRSF5 Glu21-Arg193 Accession # P25942
Conjugate	Phycoerythrin Excitation Wavelength: 488 nm Emission Wavelength: 565-605 nm
Formulation	Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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
Flow Cytometry	10 μL/10 ⁶ cells	See Below

DATA



PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. <ul style="list-style-type: none"> ● 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

CD40, also known as TNFRSF5, is a 45-50 kD type I transmembrane glycoprotein that belongs to the TNF receptor superfamily. Mature human CD40 is 257 amino acids (aa) in length, and consists of a 173 aa extracellular domain (ECD), a 22 aa transmembrane segment and a 62 aa cytoplasmic region. The ECD contains four cysteine-rich repeats, the second of which is considered crucial to ligand binding. Over aa 21-193, human CD40 shares 58% aa sequence identity with mouse CD40. Although not ubiquitously expressed, cells known to constitutively or inducibly express CD40 are large in number and include basal layer keratinocytes, adipocytes, CD8⁺ T cells, fibrocytes (circulating stem cells), monocytes, eosinophils, dendritic cells, pancreatic duct epithelium, astrocytes, smooth muscle cells, fibroblasts, vascular endothelial cells and B cells. There is at least one alternative splice form that shows a 38 aa substitution for aa 166-277, generating a soluble molecule. There are two "ligands" for CD40, the first being CD154/CD40L, and the second Borrelia, a spirochete that causes Lyme disease. CD40 ligation by CD154 has many outcomes, some of which are cell-specific. Ligation of CD40 on B cells (with IL-4) induces IgE production, while bone marrow stromal cell activation via CD40 promotes OPG secretion with concomitant bone formation. In addition, stimulation of CD40 on keratinocytes results in IL-8 and RANTES expression with subsequent leukocyte infiltration, while adipocyte activation via CD40 promotes local M1 polarization.