

1P-416-T025

Monoclonal Antibody to CD40 Phycoerythrin (PE) conjugated (25 tests)

Clone:	HI40a
Isotype:	Mouse IgG1
Specificity:	The antibody HI40a recognizes CD40 (BP50), a 48 kDa type I single chain transmembrane glycoprotein expressed on normal and neoplastic B cells, but not on terminally differentiated plasma cells. CD40 antigen is also present on Hodgkin's and Reed-Sternberg cells, follicular dendritic cells, some macrophages, basal epithelial cells and endothelial cells.
Regulatory Status:	RUO
Immunogen:	Human CD40a
Species Reactivity:	Human
Preparation:	The purified antibody is conjugated with R-Phycoerythrin (PE) under optimum conditions. The conjugate is purified by size-exclusion chromatography and adjusted for direct use. No reconstitution is necessary.
Storage Buffer:	The reagent is provided in stabilizing phosphate buffered saline (PBS) solution containing 15mM sodium azide.
Storage / Stability:	Store in the dark at 2-8°C. Do not freeze. Avoid prolonged exposure to light. Do not use after expiration date stamped on vial label.
Usage:	The reagent is designed for Flow Cytometry analysis of human blood cells using 20 µl reagent / 100 µl of whole blood or 10 ⁶ cells in a suspension. The content of a vial (0.5 ml) is sufficient for 25 tests.
Expiration:	See vial label
Lot Number:	See vial label
Background:	CD40 is a costimulatory molecule of the TNF receptor superfamily and is expressed on many cell types, such as B cells, monocytes/macrophages, dendritic cells, endothelial cells, fibroblasts or vascular smooth muscle cells. Interaction of CD40 and its ligand CD154 (CD40L) is required for the generation of antibody responses to T-dependent antigens as well as for the development of germinal centers and memory B cells. In monocytes/macrophages CD40 engagement induces production of pro-inflammatory cytokines and chemokines. CD40-CD154 interactions are also critical for development of CD4 T cell-dependent effector functions. CD40 links innate and adaptive immune responses to bacterial stimuli and serves as an important regulator affecting functions of other costimulatory molecules.

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Antibodies

References:

- *Oxenius A, Campbell KA, Maliszewski CR, Kishimoto T, Kikutani H, Hengartner H, Zinkernagel RM, Bachmann MF. CD40-CD40 ligand interactions are critical in T-B cooperation but not for other anti-viral CD4+ T cell functions. *J Exp Med.* 1996 May 1;183(5):2209-18.
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- *Pearson LL, Castle BE, Kehry MR: CD40-mediated signaling in monocytic cells: up-regulation of tumor necrosis factor receptor-associated factor mRNAs and activation of mitogen-activated protein kinase signaling pathways. *Int Immunol.* 2001 Mar;13(3):273-83.
- *Wu W, Alexis NE, Chen X, Bromberg PA, Peden DB: Involvement of mitogen-activated protein kinases and NFkappaB in LPS-induced CD40 expression on human monocytic cells. *Toxicol Appl Pharmacol.* 2007 Dec 14
- *Súkeníková L, Černý V, Novotná O, Petrásková P, Boráková K, Kolářová L, Prokešová L, Hrdý J: Different capacity of in vitro generated myeloid dendritic cells of newborns of healthy and allergic mothers to respond to probiotic strain *E. coli* O83:K24:H31. *Immunol Lett.* 2017 May 26. pii: S0165-2478(17)30110-4.

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EXBIO Praha | Nad Safinou II 341 | 252 50 Vestec u Prahy | Czech Republic
Tel: +420 261 090 666 | Fax: +420 261 090 660 | orders@exbio.cz | www.exbio.cz