

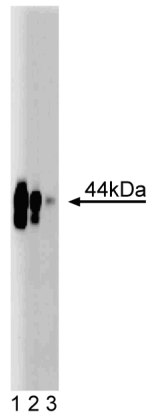
Technical Data Sheet

Purified Mouse Anti-CD40**Product Information**

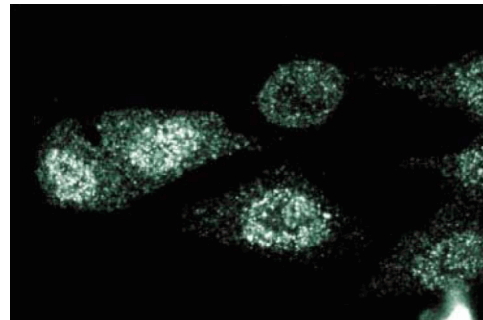
Material Number:	611362
Size:	50 µg
Concentration:	250 µg/ml
Clone:	41/CD40
Immunogen:	Human CD40 aa. 71-187
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Human
Target MW:	44 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

CD40, a member of the TNF receptor family, contains a cysteine-rich N-terminal domain and a Ser/Thr-rich region preceding the transmembrane domain. On B cells, signaling through CD40 induces cell growth and differentiation, mediates cell survival within the germinal center, and upregulates the expression of costimulatory and adhesion molecules, such as B7.1, B7.2, and ICAM-1. The interaction of CD40 on B cells and CD40L on activated CD4⁺ T cells is essential for immune functions, such as immunoglobulin class switching. Signal transduction through CD40 pathways involves interaction with proteins such as TRAFs (TRAF2, TRAF3, TRAF5, and TRAF6); Jak 3; and Tyr phosphorylation of proteins, such as Lyn, Syk, PI-3-kinase, STAT3, and STAT5. In TRAF2-deficient mice, CD40-mediated B cell proliferation and NFκB activation are defective. Ku70 and Ku80 associate with the membrane-proximal region of CD40 in human primary B cells and the engagement of CD40 leads translocation of Ku proteins to the nucleus. Thus, CD40 interacts with a variety of signal transducers which mediate its role in B cell survival, growth, differentiation, and immunoglobulin class switching.



Western blot analysis of CD40 on EB1 lysate. Lane 1: 1:2500, lane 2: 1:5000, lane 3: 1:10000 dilution of anti-CD40.



Immunofluorescent staining of HeLa cells.

Preparation and Storage

Store undiluted at -20°C.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

Application Notes**Application**

Western blot	Routinely Tested
Immunofluorescence	Tested During Development

Recommended Assay Procedure:

Western blot: Please refer to <http://www.bdbiosciences.com/resources/cellbiology/index.jsp>

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Suggested Companion Products

Catalog Number	Name	Size	Clone
611546	EB1 Cell Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Ig	1 mL	(none)
554001	FITC Goat Anti-Mouse Ig	0.5 mg	Polyclonal

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharming/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

Morio T, Hanissian SH, Bacharier LB, et al. Ku in the cytoplasm associates with CD40 in human B cells and translocates into the nucleus following incubation with IL-4 and anti-CD40 mAb. *Immunity*. 1999; 11(3):339-348. (Biology)

Nguyen LT, Duncan GS, Mirtsos C, et al. TRAF2 deficiency results in hyperactivity of certain TNFR1 signals and impairment of CD40-mediated responses. *Immunity*. 1999; 11(3):379-389. (Biology)

Randall TD, Heath AW, Santos-Argumedo L, Howard MC, Weissman IL, Lund FE. Arrest of B lymphocyte terminal differentiation by CD40 signaling: mechanism for lack of antibody-secreting cells in germinal centers. *Immunity*. 1998; 8(6):733-742. (Biology)

Stamenkovic I, Clark EA, Seed B. A B-lymphocyte activation molecule related to the nerve growth factor receptor and induced by cytokines in carcinomas. *EMBO J*. 1989; 8(5):1403-1410. (Biology)

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