

## CD40 (N-16): sc-974



The Power to Question

## BACKGROUND

Resting B cells can be activated and clonally expanded into antibody-producing cells in response to a combination of cell contact and soluble signals provided by primed helper T (Th) cells. While cytokines IL-4 and IL-13 alone are inadequate for B cell activation, contact with Th cells seems to be sufficient for delivery of proliferative signals. A receptor ligand pair central to the transmission of this signal is CD40, expressed on the surface of B cells, together with CD40L, expressed on activated T cells. In the presence of such stimulus, IL-4 and IL-13 are capable of triggering immunoglobulin class switching and secretion of IgE. B cells are sensitive to these cytokines only subsequent to CD40/CD40L-driven DNA synthesis. A downstream mediator of the CD40 signaling pathway, designated CRAF, is a member of an expanding family of proteins that contain a conserved cysteine- and histidine-rich RING finger motif. Other members of the family include TRAF1 and TRAF2. The latter proteins have been shown to regulate TNF-R2 as well as CD40 signaling through activation of the NF $\kappa$ B family of transcription factors.

## CHROMOSOMAL LOCATION

Genetic locus: CD40 (human) mapping to 20q13.12.

## SOURCE

CD40 (N-16) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the N-terminus of CD40 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-974 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

CD40 (N-16) is recommended for detection of CD40 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CD40 siRNA (h): sc-29250, CD40 shRNA Plasmid (h): sc-29250-SH and CD40 shRNA (h) Lentiviral Particles: sc-29250-V.

Molecular Weight of CD40: 43 kDa.

Positive Controls: CD40 (h): 293 Lysate: sc-112948, HeLa whole cell lysate: sc-2200 or NAMALWA cell lysate: sc-2234.

## STORAGE

Store at 4 $^{\circ}$  C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

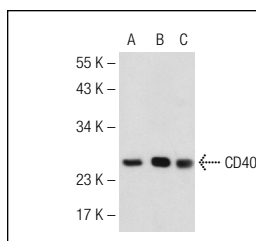
## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

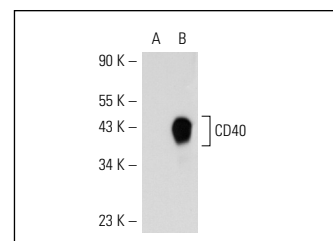
## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## DATA



CD40 (N-16): sc-974. Western blot analysis of CD40 expression in non-transfected 293T: sc-117752 (A), human CD40 transfected 293T: sc-174952 (B) and HeLa (C) whole cell lysates.



CD40 (N-16): sc-974. Western blot analysis of CD40 expression in non-transfected: sc-110760 (A) and human CD40 transfected: sc-112948 (B) 293 whole cell lysates.

## SELECT PRODUCT CITATIONS

- Revy, P., et al. 1999. Activation of the Janus kinase 3-Stat5a pathway after CD40 triggering of human monocytes but not of resting B cells. *J. Immunol.* 163: 787-793.
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- Yamachika, E., et al. 2004. Artemisinin: an alternative treatment for oral squamous cell carcinoma. *Anticancer Res.* 24: 2153-2160.
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- Georgopoulos, N.T., et al. 2007. CD40-mediated death and cytokine secretion in colorectal cancer: a potential target for inflammatory tumour cell killing. *Int. J. Cancer* 121: 1373-1381.
- Natal, C., et al. 2008. The proinflammatory mediator CD40 ligand is increased in the metabolic syndrome and modulated by adiponectin. *J. Clin. Endocrinol. Metab.* 93: 2319-2327.
- Tucker, T.A., et al. 2008. CD40 ligation decreases its protein half-life at the cell surface. *Eur. J. Immunol.* 38: 864-869.



Try **CD40 (H-10): sc-13128** or **CD40 (G-12): sc-514493**, our highly recommended monoclonal alternatives to CD40 (N-16). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **CD40 (H-10): sc-13128**.