

CD40 (T-20): sc-1731

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 κ B family of transcription factors.

CHROMOSOMAL LOCATION

Genetic locus: CD40 (human) mapping to 20q13.12; Cd40 (mouse) mapping to 2 H3.

SOURCE

CD40 (T-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of CD40 of mouse origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-1731 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CD40 (T-20) is recommended for detection of precursor and mature CD40 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) 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 siRNA (m): sc-29998, CD40 shRNA Plasmid (h): sc-29250-SH, CD40 shRNA Plasmid (m): sc-29998-SH, CD40 shRNA (h) Lentiviral Particles: sc-29250-V and CD40 shRNA (m) Lentiviral Particles: sc-29998-V.

Molecular Weight of CD40: 43 kDa.

Positive Controls: CD40 (h): 293 Lysate: sc-112948, CD40 (m): 293T Lysate: sc-126606 or NAMALWA cell lysate: sc-2234.

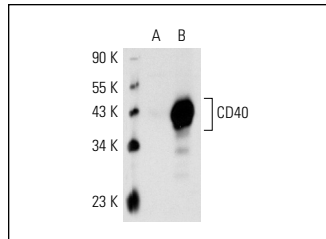
STORAGE

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

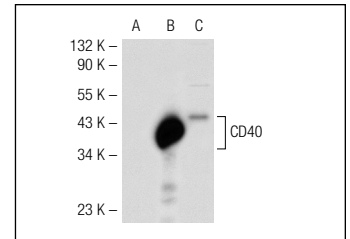
RESEARCH USE

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

DATA



CD40 (T-20): sc-1731. Western blot analysis of CD40 expression in non-transfected: sc-110760 (A) and human CD40 transfected: sc-112948 (B) 293 whole cell lysates.



CD40 (T-20): sc-1731. Western blot analysis of CD40 expression in non-transfected 293T: sc-117752 (A), mouse CD40 transfected 293T: sc-126606 (B) and NAMALWA (C) whole cell lysates.

SELECT PRODUCT CITATIONS

- Tan, J., et al. 2002. CD40 is expressed and functional on neuronal cells. *EMBO J.* 21: 643-652.
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- Jabara, H.H., et al. 2009. TRAF2 and TRAF3 independently mediate Ig class switching driven by CD40. *Int. Immunol.* 21: 477-488.
- Poggi, M., et al. 2009. The inflammatory receptor CD40 is expressed on human adipocytes: contribution to crosstalk between lymphocytes and adipocytes. *Diabetologia* 52: 1152-1163.
- Kawahara, K., et al. 2009. Marked induction of inducible nitric oxide synthase and tumor necrosis factor- α in rat CD40 $^{+}$ microglia by comparison to CD40 $^{-}$ microglia. *J. Neuroimmunol.* 208: 70-79.
- Yan, J., et al. 2011. Parenchymal expression of CD40 exacerbates adenovirus-induced hepatitis in mice. *Hepatology* 53: 1455-1467.
- Wang, S., et al. 2011. Synapsin I is an oligomannose-carrying glycoprotein, acts as an oligomannose-binding lectin, and promotes neurite outgrowth and neuronal survival when released via glia-derived exosomes. *J. Neurosci.* 31: 7275-7290.


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