

# CD40 (S-17): sc-30681

## 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; Cd40 (mouse) mapping to 2 H3.

## SOURCE

CD40 (S-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal extracellular domain 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-30681 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

CD40 (S-17) is recommended for detection of precursor and mature CD40 of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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).

CD40 (S-17) is also recommended for detection of precursor and mature CD40 in additional species, including canine.

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.

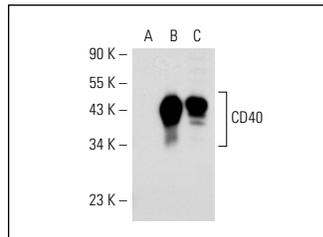
Molecular Weight of CD40: 43 kDa.

Positive Controls: CD40 (h): 293 Lysate: sc-112948, BJAB whole cell lysate: sc-2207 or NAMALWA cell lysate: sc-2234.

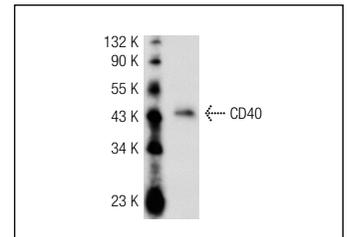
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



CD40 (S-17): sc-30681. Western blot analysis of CD40 expression in non-transfected 293: sc-110760 (A), human CD40 transfected 293: sc-112948 (B) and BJAB (C) whole cell lysates.



CD40 (S-17): sc-30681. Western blot analysis of CD40 expression in NAMALWA whole cell lysate.

## STORAGE

Store at 4° 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.

## PROTOCOLS

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



Try **CD40 (H-10): sc-13128** or **CD40 (G-12): sc-514493**, our highly recommended monoclonal alternatives to CD40 (S-17). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **CD40 (H-10): sc-13128**.