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 NFκB family of transcription factors.

CHROMOSOMAL LOCATION

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

SOURCE

CD40 (H-10) is a mouse monoclonal antibody raised against amino acids 74-193 of CD40 of human origin.

PRODUCT

Each vial contains 200 µg IgG2b kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD40 (H-10) is available conjugated to agarose (sc-13128AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-13128HRP), 200 µg/ml, for WB, IHC(P) and ELISA; and to either phycoerythrin (sc-13128 PE), fluorescein (sc-13128 FITC), Alexa Fluor® 488 (sc-13128 AF488) or Alexa Fluor® 647 (sc-13128 AF647), 200 µg/ml, for IF, IHC(P) and FCM.

SELECT PRODUCT CITATIONS


RESEARCH USE

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

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

CD40 (H-10) is recommended for detection of CD40 of human origin by Western Blotting (starting dilution 1:1,000, dilution range 1:1,000-1:5,000), immunoprecipitation (1-2 µg per 100-500 µg of total protein [1 ml of cell lysate]), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 shRNA Plasmid (h): sc-29250-SH and CD40 shRNA (h) Lentiviral Particles: sc-29250-V.

Molecular Weight of CD40: 43 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, GA-10 whole cell lysate: sc-364230 or Raji whole cell lysate: sc-364236.

DATA

CD40 (H-10): sc-13128. Western blot analysis of CD40 expression in GA-10 (A) and Raji (B) whole cell lysates.

CD40 (H-10): sc-13128. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymphoma showing membrane staining (B).