SANTA CRUZ BIOTECHNOLOGY, INC.

CD40 (1.BB.376): sc-70678

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.

REFERENCES

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4. Gordon, J. 1995. CD40 and its ligand: central players in B lymphocyte survival, growth and differentiation. Blood Rev. 9: 53-56.
5. Fuleihan, R., Ahern, D. and Geha, R.S. 1995. Expression of the CD40 ligand in T lymphocytes and induction of IgE isotype switching. Intl. Arch. Allergy Immunol. 107: 43-44.
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7. Rothe, M., Sarma, V., Dixit, V.M. and Goeddel, D.V. 1995. TRAF2-mediated activation of NFκB by TNF receptor 2 and CD40. Science 269: 1424-1427.
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CHROMOSOMAL LOCATION

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

SOURCE

CD40 (1.BB.376) is a mouse monoclonal antibody raised against Raji Burkitt's lymphoma cell line of human origin.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

PRODUCT

Each vial contains 200 µg IgG_1 in 1.0 mL PBS with < 0.1% sodium azide, 0.1% gelatin and 1% BSA.

Available as fluorescein conjugate for flow cytometry, sc-70678 FITC, 100 tests.

APPLICATIONS

CD40 (1.BB.376) is recommended for detection of CD40 of human origin by immunofluorescence and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

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.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 2) Immunohistochemistry: use ImmunoCruz™: sc-2050 or ABC: sc-2017 mouse IgG Staining Systems.

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.