# SANTA CRUZ BIOTECHNOLOGY, INC.

# Ox40 (3H1839): sc-71770



BACKGROUND

Ox40 (also designated CD134 and Ox40R), is a member of the tumor necrosis factor receptor (TNFR) family. Ox40 is involved in coordinating CD4 T cell selection, migration and cytokine differentiation in T helper (Th)1 and Th2 cells. Ox40 is also involved in the stimulation of T cells, T cell-dependent humoral response and generation of optimal CD4+ T cell responses *in vivo* and *in vitro*. Ox40 is expressed on activated CD4+ T lymphocytes and its ligand, Ox40L, is found preferentially on activated B cells. Engagement of Ox40 with its ligand, Ox40L, delivers a strong costimulatory signal to effector T cells. Members of the TNFR superfamily are critically involved in the regulation of infections, inflammation, autoimmune diseases and tissue homeostasis.

#### REFERENCES

- 1. Smith, C.A., Farrah, T. and Goodwin, R.G. 1994. The TNF receptor superfamily of cellular and viral proteins: activation, costimulation and death. Cell 76: 959-962.
- al-Shamkhani, A., Birkeland, M.L., Puklavec, M., Brown, M.H., James, W. and Barclay, A.N. 1996. 0x40 is differentially expressed on activated rat and mouse T cells and is the sole receptor for the 0x40 ligand. Eur. J. Immunol. 26: 1695-1699.
- Chen, A.I., McAdam, A.J., Buhlmann, J.E., Scott, S., Lupher, M.L., Jr., Greenfield, E.A., Baum, P.R., Fanslow, W.C., Calderhead, D.M., Freeman, G.J. and Sharpe, A.H. 1999. Ox40-ligand has a critical costimulatory role in dendritic cell: T cell interactions. Immunity 11: 689-698.
- 4. Kopf, M., Ruedl, C., Schmitz, N., Gallimore, A., Lefrang, K., Ecabert, B., Odermatt, B. and Bachmann, M.F. 1999. 0x40-deficient mice are defective in Th cell proliferation but are competent in generating B cell and CTL responses after virus infection. Immunity 11: 699-708.
- Weinberg, A.D., Rivera, M.M., Prell, R., Morris, A., Ramstad, T., Vetto, J.T., Urba, W.J., Alvord, G., Bunce, C. and Shields, J. 2000. Engagement of the Ox40 receptor *in vivo* enhances antitumor immunity. J. Immunol. 164: 2160-2169.
- Morimoto, S., Kanno, Y., Tanaka, Y., Tokano, Y., Hashimoto, H., Jacquot, S., Morimoto, C., Schlossman, S.F., Yagita, H., Okumura, K. and Kobata, T. 2000. CD134L engagement enhances human B cell lg production: CD154/ CD40, CD70/CD27 and CD134/CD134L interactions coordinately regulate T cell-dependent B cell responses. J. Immunol. 164: 4097-4104.
- Lane, P. 2000. Role of 0x40 signals in coordinating CD4 T cell selection, migration and cytokine differentiation in T helper (Th)1 and Th2 cells. J. Exp. Med. 191: 201-206.

### CHROMOSOMAL LOCATION

Genetic locus: Tnfrsf4 (mouse) mapping to 4 E2.

## SOURCE

Ox40 (3H1839) is a rat monoclonal antibody raised against OX40 of mouse origin.

## PRODUCT

Each vial contains 200  $\mu g~lgG_1$  in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

0x40 (3H1839) is available conjugated to either phycoerythrin (sc-71770 PE) or fluorescein (sc-71770 FITC), 200  $\mu g/ml$ , for IF, IHC(P) and FCM.

## **APPLICATIONS**

0x40 (3H1839) is recommended for detection of 0x40 cell surface antigen of mouse origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1  $\mu$ g per 1 x 10<sup>6</sup> cells).

Suitable for use as control antibody for 0x40 siRNA (m): sc-42823, 0x40 shRNA Plasmid (m): sc-42823-SH and 0x40 shRNA (m) Lentiviral Particles: sc-42823-V.

Molecular Weight of 0x40: 43 kDa.

#### **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 for detailed protocols and support products.