SANTA CRUZ BIOTECHNOLOGY, INC.

Ox40 siRNA (h): sc-42822

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., et al. 1994. The TNF receptor superfamily of cellular and viral proteins: activation, costimulation and death. Cell 76: 959-962.
2. Chen, A.I., et al. 1999. Ox40-ligand has a critical costimulatory role in dendritic cell: T cell interactions. Immunity 11: 689-698.
3. Kopf, M., et al. 1999. Ox40-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.
4. Weinberg, A.D., et al. 2000. Engagement of the Ox40 receptor *in vivo* enhances antitumor immunity. J. Immunol. 164: 2160-2169.
5. Murata, K., et al. 2000. Impairment of antigen-presenting cell function in mice lacking expression of Ox40 ligand. J. Exp. Med. 191: 365-374.
6. Morimoto, S., et al. 2000. CD134L engagement enhances human B cell Ig production: CD154/CD40, CD70/CD27, and CD134/CD134L interactions coordinately regulate T cell-dependent B cell responses. J. Immunol. 164: 4097-4104.
7. Lane, P. 2000. Role of Ox40 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 (human) mapping to 1p36.33.

PRODUCT

Ox40 siRNA (h) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Ox40 shRNA Plasmid (h): sc-42822-SH and Ox40 shRNA (h) Lentiviral Particles: sc-42822-V as alternate gene silencing products.

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.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Ox40 siRNA (h) is recommended for the inhibition of Ox40 expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

Ox40 (H-10): sc-376014 is recommended as a control antibody for monitoring of Ox40 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Ox40 gene expression knockdown using RT-PCR Primer: Ox40 (h)-PR: sc-42822-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.