SANTA CRUZ BIOTECHNOLOGY, INC.

RELT siRNA (h): sc-72389

BACKGROUND

RELT (receptor expressed in lymphoid tissues), also known as tumor necrosis factor receptor superfamily member 19L (TNFRSF19L), is a transmembrane glycoprotein. It is expressed in thymus, spleen, testis, colon, skeletal muscle and peripheral blood lymphocytes. RELT contains two cysteine rich domains (although one is incomplete) and does not contain the death domain that is present in some of the TNFR family members. Unlike the other family members that also lack the death domain, RELT does not bind the TRAF adaptor proteins. RELT binds and is phosphorylated by SPAK. This interaction is required for the activation of p38 and JNK signaling. RELT also interacts with, and is phosphorylated by, OSR1 kinase. In addition, RELT may be involved in T cell activation. The overexpression of RELT induces phosphorylation of c-Jun and ATF-2. This implies the activation of the JNK and p38 signaling cascades.

REFERENCES

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2. Zhang, G. 2004. Tumor necrosis factor family ligand-receptor binding. Curr. Opin. Struct. Biol. 14: 154-160.
3. Foster, D., Parrish-Novak, J., Fox, B. and Xu, W. 2004. Cytokine-receptor pairing: accelerating discovery of cytokine function. Nat. Rev. Drug Discov. 3: 160-170.
4. Cusick, J.K., Xu, L.G., Bin, L.H., Han, K.J. and Shu, H.B. 2006. Identification of RELT homologues that associate with RELT and are phosphorylated by OSR1. Biochem. Biophys. Res. Commun. 340: 535-543.
5. Polek, T.C., Talpaz, M. and Spivak-Kroizman, T. 2006. The TNF receptor, RELT, binds SPAK and uses it to mediate p38 and JNK activation. Biochem. Biophys. Res. Commun. 343: 125-134.
6. Polek, T.C., Talpaz, M. and Spivak-Kroizman, T.R. 2006. TRAIL-induced cleavage and inactivation of SPAK sensitizes cells to apoptosis. Biochem. Biophys. Res. Commun. 349: 1016-1024.

CHROMOSOMAL LOCATION

Genetic locus: RELT (human) mapping to 11q13.4.

PRODUCT

RELT siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs 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 RELT shRNA Plasmid (h): sc-72389-SH and RELT shRNA (h) Lentiviral Particles: sc-72389-V as alternate gene silencing products.

For independent verification of RELT (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-72389A, sc-72389B and sc-72389C.

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

RELT siRNA (h) is recommended for the inhibition of RELT 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

RELT (C-6): sc-373942 is recommended as a control antibody for monitoring of RELT 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 RELT gene expression knockdown using RT-PCR Primer: RELT (h)-PR: sc-72389-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.