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SANTA CRUZ BIOTECHNOLOGY, INC.

TRAC-1 siRNA (m): sc-153007

BACKGROUND

The RING-type zinc finger motif is present in a number of viral and eukaryotic proteins and is made of a conserved cysteine-rich domain that is able to bind two zinc atoms. Proteins that contain this conserved domain are generally involved in the ubiquitination pathway of protein degradation. TRAC-1 (T cell RING activation protein 1), also known as RNF125 (RING finger protein 125) or E3 ubiquitin-protein ligase RNF125, is a 232 amino acid novel E3 ubiquitin ligase that functions as a positive regulator in the T cell receptor signaling pathway. Expressed predominantly in lymphoid tissues such as spleen, thymus and bone marrow, TRAC-1 has been found to inhibit pathogen-induced cytokine production and downregulates HIV replication.

REFERENCES

1. Saurin, A.J., et al. 1996. Does this have a familiar RING? Trends Biochem. Sci. 21: 208-214.
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3. Arimoto, K., et al. 2007. Negative regulation of the RIG-I signaling by the ubiquitin ligase RNF125. Proc. Natl. Acad. Sci. USA 104: 7500-7505.
4. Shoji-Kawata, S., et al. 2007. The RING finger ubiquitin ligase RNF125/TRAC-1 down-modulates HIV-1 replication in primary human peripheral blood mononuclear cells. Virology 368: 191-204.
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6. Giannini, A.L., et al. 2008. T cell regulator RNF125/TRAC-1 belongs to a novel family of ubiquitin ligases with zinc fingers and a ubiquitin-binding domain. Biochem. J. 410: 101-111.
7. Arimoto, K., et al. 2008. UbcH8 regulates ubiquitin and ISG15 conjugation to RIG-I. Mol. Immunol. 45: 1078-1084.

CHROMOSOMAL LOCATION

Genetic locus: Rnf125 (mouse) mapping to 18 A2.

PRODUCT

TRAC-1 siRNA (m) 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 TRAC-1 shRNA Plasmid (m): sc-153007-SH and TRAC-1 shRNA (m) Lentiviral Particles: sc-153007-V as alternate gene silencing products.

For independent verification of TRAC-1 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-153007A, sc-153007B and sc-153007C.

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

TRAC-1 siRNA (m) is recommended for the inhibition of TRAC-1 expression in mouse 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TRAC-1 gene expression knockdown using RT-PCR Primer: TRAC-1 (m)-PR: sc-153007-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.