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TICAM-2 siRNA (h): sc-44747

BACKGROUND

TICAM-1, also known as Toll-interleukin 1 receptor domain (TIR)-containing adaptor molecule, maps at chromosome 19p13.3. It can physically bind the TIR domain of Toll-like receptor 3 (TLR3) and activate the IFN- β promoter. TLR proteins are signaling molecules that can recognize pathogen associated molecular patterns and may function as a link between the innate and adaptive immune responses. TICAM-1 mediates dsRNA-TLR3-dependent production of IFN- β . This TICAM-1-dependent pathway is important for other TLR-IFN- β pathways, which form part of the MyD88-independent cellular immune response. TICAM-2, a cytoplasmic protein, physically bridges TLR4 and TICAM-1 and functionally transmits LPS-TLR4 signaling to TICAM-1, which in turn activates IRF-3. In its structural features, TICAM-2 resembles Mal/TIRAP, an adaptor that links TLR2/4 and MyD88.

REFERENCES

1. Yamamoto, M., et al. 2002. Cutting edge: a novel Toll/IL-1 receptor domain-containing adaptor that preferentially activates the IFN- β promoter in the Toll-like receptor signaling. *J. Immunol.* 169: 6668-6672.
2. Bin, L.H., et al. 2003. TIRP, a novel Toll/interleukin-1 receptor (TIR) domain-containing adaptor protein involved in TIR signaling. *J. Biol. Chem.* 278: 24526-24532.
3. Fitzgerald, K.A., et al. 2003. LPS-TLR4 signaling to IRF-3/7 and NF κ B involves the Toll adaptors TRAM and TRIF. *J. Exp. Med.* 198: 1043-1055.
4. Oshiumi, H., et al. 2003. TICAM-1, an adaptor molecule that participates in Toll-like receptor 3-mediated interferon- β induction. *Nat. Immunol.* 4: 161-167.
5. Oshiumi, H., et al. 2003. TIR-containing adaptor molecule (TICAM)-2, a bridging adaptor recruiting to Toll-like receptor 4 TICAM-1 that induces IFN- β . *J. Biol. Chem.* 278: 49751-49762.
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CHROMOSOMAL LOCATION

Genetic locus: TICAM2 (human) mapping to 5q22.3.

PRODUCT

TICAM-2 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TICAM-2 shRNA Plasmid (h): sc-44747-SH and TICAM-2 shRNA (h) Lentiviral Particles: sc-44747-V as alternate gene silencing products.

For independent verification of TICAM-2 (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-44747A, sc-44747B and sc-44747C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

STORAGE AND RESUSPENSION

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

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

APPLICATIONS

TICAM-2 siRNA (h) is recommended for the inhibition of TICAM-2 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 μ M in 66 μ l. 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

TICAM-2 (E-2): sc-376076 is recommended as a control antibody for monitoring of TICAM-2 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-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz MarkerTM Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 TICAM-2 gene expression knockdown using RT-PCR Primer: TICAM-2 (h)-PR: sc-44747-PR (20 μ l). Annealing temperature for the primers should be 55-60 $^{\circ}$ C and the extension temperature should be 68-72 $^{\circ}$ C.

PROTOCOLS

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