SANTA CRUZ BIOTECHNOLOGY, INC.

Tollip siRNA (h): sc-63332

BACKGROUND

Tollip (Toll-interacting protein) serves as a suppressor of innate immunity signaling and links the serine/threonine kinase IRAK to the IL-1 receptor complex upon receptor activation. Overexpression of Tollip in HEK-293 cells inhibits NFκB activation in response to TLR2 and TLR4 signaling. Negative regulation of TLR signaling by Tollip may limit the production of proinflammatory mediators during inflammation and infection. Tollip forms a complex with Tom1 to regulate endosomal trafficking of ubiquitinated proteins. The Tollip protein shows ubiquitous expression in mouse.

REFERENCES

1. Burns, K., et al. 2000. Tollip, a new component of the IL-1RI pathway, links IRAK to the IL-1 receptor. Nat. Cell Biol. 2: 346-351.
2. Bulut, Y., et al. 2001. Cooperation of Toll-like receptor 2 and 6 for cellular activation by soluble tuberculosis factor and *Borrelia burgdorferi* outer surface protein A lipoprotein: role of Toll-interacting protein and IL-1 receptor signaling molecules in Toll-like receptor 2 signaling. J. Immunol. 167: 987-994.
3. Zhang, G., et al. 2002. Negative regulation of Toll-like receptor-mediated signaling by Tollip. J. Biol. Chem. 277: 7059-7065.
4. Katoh, Y., et al. 2004. Tollip and Tom1 form a complex and recruit ubiquitin-conjugated proteins onto early endosomes. J. Biol. Chem. 279: 24435-24443.
5. Li, T., et al. 2004. Characterization of Tollip protein upon lipopolysaccharide challenge. Mol. Immunol. 41: 85-92.

CHROMOSOMAL LOCATION

Genetic locus: TOLLIP (human) mapping to 11p15.5.

PRODUCT

Tollip 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 Tollip shRNA Plasmid (h): sc-63332-SH and Tollip shRNA (h) Lentiviral Particles: sc-63332-V as alternate gene silencing products.

For independent verification of Tollip (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-63332A, sc-63332B and sc-63332C.

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

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

Tollip (Kimmy-2): sc-59720 is recommended as a control antibody for monitoring of Tollip 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Tollip gene expression knockdown using RT-PCR Primer: Tollip (h)-PR: sc-63332-PR (20 µl, 400 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Saha, S.S., et al. 2015. Signal transduction and intracellular trafficking by the interleukin 36 receptor. J. Biol. Chem. 290: 23997-24006.
2. Yi, G., et al. 2016. Structural and functional attributes of the interleukin-36 receptor. J. Biol. Chem. 291: 16597-16609.

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.