SANTA CRUZ BIOTECHNOLOGY, INC.

TLR11 siRNA (m): sc-61694

BACKGROUND

Six human homologs of the *Drosophila* Toll receptor were initially identified based on their sequence similarities and designated Toll-like receptors (TLR). Toll receptors are involved in mediating dorsoventral polarization in the developing *Drosophila* embryo and also participate in the host immunity. The TLR family of proteins are characterized by a highly conserved Toll homology (TH) domain, which is essential for Toll-induced signal transduction. TLR11 is a single-pass type I membrane protein. It is involved the innate immune response to microbial agents. It acts through TRAF6 and MyD88, causing NFκB activation, cytokine secretion and inflammatory response.

REFERENCES

1. Zhang, D., et al. 2004. A Toll-like receptor that prevents infection by uropathogenic bacteria. Science 303: 1522-1526.
2. Tabeta, K., et al. 2004. Toll-like receptors 9 and 3 as essential components of innate immune defense against mouse cytomegalovirus infection. Proc. Natl. Acad. Sci. USA 101: 3516-3521.
3. Lancaster, G.I., et al. 2005. The physiological regulation of Toll-like receptor expression and function in humans. J. Physiol. 563: 945-955.
4. Yarovinsky, F., et al. 2005. TLR11 Activation of dendritic cells by a protozoan Profilin-like protein. Science 308: 1626-1629.
5. Roach, J.C., et al. 2005. The evolution of vertebrate Toll-like receptors. Proc. Natl. Acad. Sci. USA 102: 9577-9582.
6. Baratin, M., et al. 2005. Natural killer cell and macrophage cooperation in MyD88-dependent innate responses to *Plasmodium falciparum*. Proc. Natl. Acad. Sci. USA 102: 14747-14752.

CHROMOSOMAL LOCATION

Genetic locus: Tlr11 (mouse) mapping to 14 C1.

PRODUCT

TLR11 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 TLR11 shRNA Plasmid (m): sc-61694-SH and TLR11 shRNA (m) Lentiviral Particles: sc-61694-V as alternate gene silencing products.

For independent verification of TLR11 (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-61694A, sc-61694B and sc-61694C.

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

TLR11 siRNA (m) is recommended for the inhibition of TLR11 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 TLR11 gene expression knockdown using RT-PCR Primer: TLR11 (m)-PR: sc-61694-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Chen, Q., et al. 2014. Toll-like receptor 11-initiated innate immune response in male mouse germ cells. Biol. Reprod. 90: 38.
2. Qiu, J., et al. 2023. *Toxoplasma gondii* microneme protein MIC3 induces macrophage TNF-α production and Ly6C expression via TLR11/MyD88 pathway. PLoS Negl. Trop. Dis. 17: e0011105.

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.