SANTA CRUZ BIOTECHNOLOGY, INC.

MyD88 siRNA (m): sc-35987

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Interleukin-1 (IL-1)-induced activation of the NFκB pathway is mediated through the IL-1 receptor and the subsequent phosphorylation of IL-1 receptor-associated kinase (IRAK). The myeloid differentiation protein MyD88 was originally characterized as a protein upregulated in myeloleukemic cells following IL-6-induced growth arrest and terminal differentiation. MyD88 is now known to function as an adaptor protein for the association of IRAK with the IL-1 receptor. MyD88 is functionally homologous to the adaptor protein tube in the Toll signaling pathway of *Drosophilia,* and both proteins are members of the Toll/IL-1R superfamily. MyD88 contains a characteristic N-terminal death domain that is essential for NFκB activation and an adjacent Toll/IL-1R homology domain (TIR domain). Collectively, these domains enable the protein-protein interactions of MyD88 with IRAK and the IL-1 receptor complex.

CHROMOSOMAL LOCATION

Genetic locus: Myd88 (mouse) mapping to 9 F3.

PRODUCT

MyD88 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 MyD88 shRNA Plasmid (m): sc-35987-SH and MyD88 shRNA (m) Lentiviral Particles: sc-35987-V as alternate gene silencing products.

For independent verification of MyD88 (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-35987A, sc-35987B and sc-35987C.

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

MyD88 siRNA (m) is recommended for the inhibition of MyD88 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.

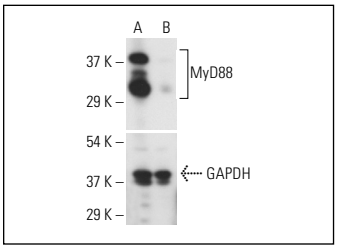
GENE EXPRESSION MONITORING

MyD88 (E-11): sc-74532 is recommended as a control antibody for monitoring of MyD88 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 MyD88 gene expression knockdown using RT-PCR Primer: MyD88 (m)-PR: sc-35987-PR (20 µl, 545 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

DATA



MyD88 siRNA (m): sc-35987. Western blot analysis of MyD88 expression in non-transfected control (**A**) and MyD88 siRNA transfected (**B**) J774A.1 cells. Blot probed with MyD88 (HFL-296): sc-11356. GAPDH (FL-335): sc-25778 used as specificity and loading control.

SELECT PRODUCT CITATIONS

1. Pobezinskaya, Y.L., et al. 2008. The function of TRADD in signaling through tumor necrosis factor receptor 1 and TRIF-dependent Toll-like receptors. Nat. Immunol. 9: 1047-1054.
2. Chalmers, S.A., et al. 2013. A role for HMGB1, HSP60 and MyD88 in growth of murine mammary carcinoma *in vitro.* Cell. Immunol. 282: 136-145.
3. Ding, Z., et al. 2015. Lectin-like ox-LDL receptor-1 (LOX-1)-Toll-like receptor 4 (TLR4) interaction and autophagy in CATH.a differentiated cells exposed to Angiotensin II. Mol. Neurobiol. 51: 623-632.
4. Akimoto, M., et al. 2016. Interleukin-33 enhances programmed oncosis of ST2L-positive low-metastatic cells in the tumour microenvironment of lung cancer. Cell Death Dis. 7: e2057.
5. Gupta, P.K., et al. 2017. Activation of murine macrophages by G1-4A, a polysaccharide from *Tinospora cordifolia,* in TLR4/MyD88 dependent manner. Int. Immunopharmacol. 50: 168-177.
6. Lee, H.R., et al. 2019. 1-palmitoyl-2-linoleoyl-3-acetyl-rac-glycerol (PLAG) rapidly resolves LPS-induced acute lung injury through the effective control of neutrophil recruitment. Front. Immunol. 10: 2177.

RESEARCH USE

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