SANTA CRUZ BIOTECHNOLOGY, INC.

RP105 siRNA (m): sc-40253

BACKGROUND

RP105 is a mouse B cell surface molecule that transmits a growth-promoting signal and is implicated in the life/death decision of B cells. RP105 has tandem repeats of a leucine-rich motif in its extracellular domain that are presumed to be involved in protein-protein interactions. The amino acid sequence of human RP105 is highly homologous to that of mouse RP105; human RP105 shares 74% identity with the mouse protein, as well as the leucine-rich motif. Surface expression of RP105 is enhanced in the presence of MD1, although this expression is restricted to CD19-positive B cells. RP105 demonstrates predominant expression on mature B cells in mantle zones; very little expression is observed in germinal centers.

REFERENCES

1. Gay, N.J., et al. 1991. Drosophila Toll and IL-1 receptor. Nature 351: 355-356.
2. Miura, Y., et al. 1996. Molecular cloning of a human RP105 homologue and chromosomal localization of the mouse and human RP105 genes (Ly64 and LY64). Genomics. 38: 299-304.
3. Rock, F.L., et al. 1998. A family of human receptors structuraly related to *Drosophila* Toll. Proc. Natl. Acad. Sci. USA 95: 588-593.
4. Miura, Y., et al. 1998. RP105 is associated with MD-1 and transmits an activation signal in human B cells. Blood 92: 2815-2822.
5. Miyake, K., et al. 1998. Mouse MD-1, a molecule that is physically associated with RP105 and positively regulates its expression. J. Immunol. 161: 1348-1353.
6. Brightbill, H.D., et al. 1999. Host defense mechanisms triggered by microbial lipoproteins through Toll-like receptors. Science 285: 732-736.
7. Medzhitov, R., et al. 2000. A human homologue of the *Drosophila* Toll protein signals activation of adaptive immunity. Nature 388: 394-397.
8. Chuang, T.H., et al. 2000. Cloning and characterization of a sub-family of human toll-like receptors: hTLR7, hTLR8, hTLR9. Eur. Cytokine Netw. 11: 372-378.
9. Miyake, K., et al. 2000. Innate recognition of lipopolysaccharide by Toll-like receptor 4/MD-2 and RP105/MD-1. J. Endotoxin Res. 6: 389-391.

CHROMOSOMAL LOCATION

Genetic locus: Cd180 (mouse) mapping to 13 D1.

PRODUCT

RP105 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 RP105 shRNA Plasmid (m): sc-40253-SH and RP105 shRNA (m) Lentiviral Particles: sc-40253-V as alternate gene silencing products.

For independent verification of RP105 (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-40253A, sc-40253B and sc-40253C.

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

RP105 siRNA (m) is recommended for the inhibition of RP105 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

RP105 (RP/14): sc-13592 is recommended as a control antibody for monitoring of RP105 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 RP105 gene expression knockdown using RT-PCR Primer: RP105 (m)-PR: sc-40253-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. Salazar Gonzalez, R.M., et al. 2014. *Toxoplasma gondii*-derived profilin triggers human toll-like receptor 5-dependent cytokine production. J. Innate Immun. 6: 685-694.

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.