SANTA CRUZ BIOTECHNOLOGY, INC.

Tom1L-2 siRNA (h): sc-76710

BACKGROUND

Tom1L-2 (target of myb1-like 2), also known as TOM1L2, TOM1-like protein 2 or target of Myb-like protein 2, is a 507 amino acid protein belonging to the TOM1 family. Encoded by a gene that maps to human chromosome 17p11.2, Tom1L-2 is ubiquitously expressed, with higher expression in heart and skeletal muscle, and may play a role in protein transport and cellular trafficking. Existing as four alternatively spliced isoforms, Tom1L-2 interacts with clathrin, SRC and Tollip. Tom1L-2 contains two domains, the GAT domain, which mediates interaction with Tollip, and the VHS domain, both of which are involved in vesicular trafficking. Tom1L-2 associates with SRC when coexpressed in HEK 293 cells. Tom1L-2 also associates with SRC when overexpressed, thereby affecting SFK mitogenic signaling induced by growth factors. Myc expression substantially reverses mitogenic inhibition induced by Tom1L-2. Tom1L-2 may be associated with dementia, SMS (Smith-Magenis syndrome), immunological responses and tumor suppression.

REFERENCES

1. Bi, W., et al. 2002. Genes in a refined Smith-Magenis syndrome critical deletion interval on chromosome 17p11.2 and the syntenic region of the mouse. Genome Res. 12: 713-728.
2. Atiye, J., et al. 2005. Gene amplifications in osteosarcoma-CGH microarray analysis. Genes Chromosomes Cancer 42: 158-163.
3. Puertollano, R. 2005. Interactions of TOM1L1 with the multivesicular body sorting machinery. J. Biol. Chem. 280: 9258-9264.
4. Katoh, Y., et al. 2006. Recruitment of clathrin onto endosomes by the Tom1-Tollip complex. Biochem. Biophys. Res. Commun. 341: 143-149.
5. Franco, M., et al. 2006. The adaptor protein Tom1L1 is a negative regulator of Src mitogenic signaling induced by growth factors. Mol. Cell. Biol. 26: 1932-1947.
6. Yan, T., et al. 2007. COPS3 amplification and clinical outcome in osteosarcoma. Cancer 109: 1870-1876.
7. Girirajan, S., et al. 2008. Tom1L-2 hypomorphic mice exhibit increased incidence of infections and tumors and abnormal immunologic response. Mamm. Genome 19: 246-262.

CHROMOSOMAL LOCATION

Genetic locus: TOM1L2 (human) mapping to 17p11.2.

PRODUCT

Tom1L-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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Tom1L-2 shRNA Plasmid (h): sc-76710-SH and Tom1L-2 shRNA (h) Lentiviral Particles: sc-76710-V as alternate gene silencing products.

For independent verification of Tom1L-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-76710A, sc-76710B and sc-76710C.

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

Tom1L-2 siRNA (h) is recommended for the inhibition of Tom1L-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 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 Tom1L-2 gene expression knockdown using RT-PCR Primer: Tom1L-2 (h)-PR: sc-76710-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.