

SCYL1 siRNA (m): sc-153277

BACKGROUND

SCYL1 (SCY1-like protein 1), also known as NTKL (N-terminal kinase-like protein), CVAK90 (coated vesicle-associated kinase of 90 kDa), GKLP, TAPK, TEIF or TRAP (telomerase regulation-associated protein), is an 808 amino acid protein that belongs to the protein kinase superfamily. SCYL1 contains three heat domains and one protein kinase domain, which is thought to be catalytically inactive. SCYL1 regulates COPI-mediated traffic and interacts with COPA, COPB1, COPB2, AP2B1 and GORAB. SCYL1 undergoes alternative splicing events to produce six isoforms. Isoform 6 localizes to the nucleus where it acts as a transcriptional activator and binds three GC-rich sites (box A, B and C) in the region of the β -polymerase and TERT promoter. Isoforms 1, 2 and 3 are known to localize to the cytoplasm. The gene encoding SCYL1 maps to human chromosome 11.

REFERENCES

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2. Kato, M., et al. 2002. Identification and characterization of the human protein kinase-like gene NTKL: mitosis-specific centrosomal localization of an alternatively spliced isoform. *Genomics* 79: 760-767.
3. Tang, Z., et al. 2004. Molecular cloning and characterization of a human gene involved in transcriptional regulation of hTERT. *Biochem. Biophys. Res. Commun.* 324: 1324-1332.
4. Zhao, Y., et al. 2005. Transcriptional upregulation of DNA polymerase β by TEIF. *Biochem. Biophys. Res. Commun.* 333: 908-916.
5. Olsen, J.V., et al. 2006. Global, *in vivo*, and site-specific phosphorylation dynamics in signaling networks. *Cell* 127: 635-648.
6. Schmid, E.M., et al. 2006. Role of the AP2 β -appendage hub in recruiting partners for clathrin-coated vesicle assembly. *PLoS Biol.* 4: e262.
7. Burman, J.L., et al. 2008. SCYL1, mutated in a recessive form of spinocerebellar neurodegeneration, regulates COPI-mediated retrograde traffic. *J. Biol. Chem.* 283: 22774-22786.

CHROMOSOMAL LOCATION

Genetic locus: Scyl1 (mouse) mapping to 19 A.

PRODUCT

SCYL1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SCYL1 shRNA Plasmid (m): sc-153277-SH and SCYL1 shRNA (m) Lentiviral Particles: sc-153277-V as alternate gene silencing products.

For independent verification of SCYL1 (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-153277A, sc-153277B and sc-153277C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

SCYL1 siRNA (m) is recommended for the inhibition of SCYL1 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 μ M in 66 μ l. 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

SCYL1 (KA.72): sc-130466 is recommended as a control antibody for monitoring of SCYL1 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).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz MarkerTM Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SCYL1 gene expression knockdown using RT-PCR Primer: SCYL1 (m)-PR: sc-153277-PR (20 μ l). 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.