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SANTA CRUZ BIOTECHNOLOGY, INC.

MYT1 siRNA (m): sc-149769

BACKGROUND

C2HC-type zinc finger transcription factors, such as MYT1L, MYT1 and ST18, are widely expressed in developing neuronal cells. MYT1 (myelin transcription factor 1), also designated MTF1, MYTI or PLPB1, is a 1,121 amino acid nuclear protein expressed in neural progenitors and oligodendrocyte lineage cells. MYT1 consists of seven very highly conserved zinc fingers of the C2HC class of zinc finger transcription factors, which are arranged in two widely separated clusters. These two clusters of the DNA binding domain can function independently and recognize the same DNA sequence. MYT1 is thought to be involved in the development of neurons and oligodendrogalia in the central nervous system and in the regulation of endocrine differentiation and function. Myelin repair in periventricular leukomalacia (PVL) regions in developing brain may involve MYT1 activity.

REFERENCES

1. Armstrong, R.C., et al. 1997. High-grade human brain tumors exhibit increased expression of myelin transcription factor 1 (MYT1), a zinc finger DNA-binding protein. J. Neuropathol. Exp. Neurol. 56: 772-781.
2. Kim, J.G., et al. 1997. Myelin transcription factor 1 (MYT1) of the oligodendrocyte lineage, along with a closely related CCHC zinc finger, is expressed in developing neurons in the mammalian central nervous system. J. Neurosci. Res. 50: 272-290.
3. Yee, K.S., et al. 1998. Isolation and characterization of a novel member of the neural zinc finger factor/myelin transcription factor family with transcriptional repression activity. J. Biol. Chem. 273: 5366-5374.
4. Hirayama, A., et al. 2003. Myelin transcription factor 1 (MYT1) immunoreactivity in infants with periventricular leukomalacia. Brain Res. Dev. Brain Res. 140: 85-92.
5. Nielsen, J.A., et al. 2004. Myelin transcription factor 1 (MYT1) modulates the proliferation and differentiation of oligodendrocyte lineage cells. Mol. Cell. Neurosci. 25: 111-123.
6. Romm, E., et al. 2005. MYT1 family recruits histone deacetylase to regulate neural transcription. J. Neurochem. 93: 1444-1453.
7. Vana, A.C., et al. 2007. Myelin transcription factor 1 (MYT1) expression in demyelinated lesions of rodent and human CNS. Glia 55: 687-697.

CHROMOSOMAL LOCATION

Genetic locus: Myt1 (mouse) mapping to 2 H4.

PRODUCT

MYT1 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 MYT1 shRNA Plasmid (m): sc-149769-SH and MYT1 shRNA (m) Lentiviral Particles: sc-149769-V as alternate gene silencing products.

For independent verification of MYT1 (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-149769A, sc-149769B and sc-149769C.

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

MYT1 siRNA (m) is recommended for the inhibition of MYT1 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

MYT1 (B-10): sc-398299 is recommended as a control antibody for monitoring of MYT1 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-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 MYT1 gene expression knockdown using RT-PCR Primer: MYT1 (m)-PR: sc-149769-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.