SANTA CRUZ BIOTECHNOLOGY, INC.

EXOD1 siRNA (m): sc-144973

BACKGROUND

EXOD1 (exonuclease domain-containing protein 1), also known as ERI2 (ERI1 exoribonuclease 2), is a 691 amino acid protein that contains one exonuclease domain, which catalyzes the hydrolysis of unpaired or mismatched nucleotides. EXOD1 acitivity is dependent on the binding of two magnesium ions per subunit. There are four isoforms of EXOD1 that are produced as a result of alternative splicing events. The gene encoding EXOD1 maps to human chromosome 16, which encodes over 900 genes and comprises nearly 3% of the human genome. The GAN gene is located on chromosome 16 and, with mutation, may lead to giant axonal neuropathy, a nervous system disorder characterized by increasing malfunction with growth. The rare disorder Rubinstein-Taybi syndrome is also associated with chromosome 16, as is Crohn's disease, which is a gastrointestinal inflammatory condition.

REFERENCES

1. Koonin, E.V. 1997. A conserved ancient domain joins the growing superfamily of 3'-5' exonucleases. Curr. Biol. 7: R604-R606.
2. Ceska, T.A., et al. 1998. Structure-specific DNA cleavage by 5' nucleases. Trends Biochem. Sci. 23: 331-336.
3. Gilbert, F. 1999. Disease genes and chromosomes: disease maps of the human genome. Chromosome 16. Genet. Test. 3: 243-254.
4. Martin, J., et al. 2004. The sequence and analysis of duplication-rich human chromosome 16. Nature 432: 988-994.
5. Kupsco, J.M., et al. 2006. Genetic and biochemical characterization of *Drosophila* Snipper: a promiscuous member of the metazoan 3'hExo/ERI-1 family of 3' to 5' exonucleases. RNA 12: 2103-2117.
6. Zhang, L.P., et al. 2009. Clinical and genetic studies in a Chinese family with giant axonal neuropathy. J. Child Neurol. 24: 1552-1556.
7. Bartsch, O., et al. 2010. Inheritance and variable expression in Rubinstein-Taybi syndrome. Am. J. Med. Genet. A 152A: 2254-2261.

CHROMOSOMAL LOCATION

Genetic locus: Eri2 (mouse) mapping to 7 F2.

PRODUCT

EXOD1 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 EXOD1 shRNA Plasmid (m): sc-144973-SH and EXOD1 shRNA (m) Lentiviral Particles: sc-144973-V as alternate gene silencing products.

For independent verification of EXOD1 (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-144973A, sc-144973B and sc-144973C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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

EXOD1 siRNA (m) is recommended for the inhibition of EXOD1 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor EXOD1 gene expression knockdown using RT-PCR Primer: EXOD1 (m)-PR: sc-144973-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.