SANTA CRUZ BIOTECHNOLOGY, INC.

ZFYVE26 siRNA (h): sc-63243

BACKGROUND

Zinc-finger proteins contain DNA-binding domains and have a wide variety of functions, most of which encompass some form of transcriptional activation or repression. ZFYVE26 (zinc finger, FYVE domain containing 26), also known as SPG15, is a 2,539 amino acid protein that exists as multiple alternatively spliced isoforms and contains one FYVE-type zinc finger. Expressed at high levels in brain, prostate, lung, testis, retina, bone marrow and adrenal gland, ZFYVE26 is thought to interact with phospholipids in the membrane and may be involved in transcriptional regulation events. Defects in the gene encoding ZFYVE26 are the cause of spastic paraplegia autosomal recessive type 15 (SPG15), a neurodegenerative disorder that is characterized by difficulty with balance, weakness and stiffness in the legs, muscle spasms, mental retardation, axonal neuropathy and retinal degeneration.

REFERENCES

1. Hughes, C.A., et al. 2001. SPG15, a new locus for autosomal recessive complicated HSP on chromosome 14q. Neurology 56: 1230-1233.
2. Casali, C., et al. 2004. Clinical and genetic studies in hereditary spastic paraplegia with thin corpus callosum. Neurology 62: 262-268.
3. Elleuch, N., et al. 2007. Refinement of the SPG15 candidate interval and phenotypic heterogeneity in three large Arab families. Neurogenetics 8: 307-315.
4. Hanein, S.,et al. 2008. Identification of the SPG15 gene, encoding spastizin, as a frequent cause of complicated autosomal-recessive spastic paraplegia, including Kjellin syndrome. Am. J. Hum. Genet. 82: 992-1002.
5. Boukhris, A., et al. 2008. Hereditary spastic paraplegia with mental impairment and thin corpus callosum in Tunisia: SPG11, SPG15, and further genetic heterogeneity. Arch. Neurol. 65: 393-402.
6. Boukhris, A., et al. 2008. Spastic paraplegia 15: linkage and clinical description of three Tunisian families. Mov. Disord. 23: 429-433.
7. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 612012. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: ZFYVE26 (human) mapping to 14q24.1.

PRODUCT

ZFYVE26 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 ZFYVE26 shRNA Plasmid (h): sc-63243-SH and ZFYVE26 shRNA (h) Lentiviral Particles: sc-63243-V as alternate gene silencing products.

For independent verification of ZFYVE26 (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-63243A, sc-63243B and sc-63243C.

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

ZFYVE26 siRNA (h) is recommended for the inhibition of ZFYVE26 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 ZFYVE26 gene expression knockdown using RT-PCR Primer: ZFYVE26 (h)-PR: sc-63243-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.