SANTA CRUZ BIOTECHNOLOGY, INC.

SPFH2 siRNA (m): sc-76560

BACKGROUND

SPFH2 (stomatin-prohibitin-flotillin-HflC/K domain-containing protein 2), also known as ERLIN2 (endoplasmic reticulum lipid raft-associated protein 2), C8orf2 or Erlin-2, is a ubiquitously expressed 339 amino acid protein that belongs to the band 7/mec-2 family. Localized to lipid raft-like domains in the membrane of the endoplasmic reticulum (ER), SPFH2 plays a crucial role in the ER-associated degradation (ERAD) pathway that removes metabolically regulated and aberrant proteins from the ER. Specifically, SPFH2 associates with IP3R-I (inositol 1,4,5-triphosphate receptor I), a substrate of the ERAD pathway, and facilitates its polyubiquitination and subsequent degradation. Three isoforms of SPFH2 are expressed due to alternative splicing events.

REFERENCES

1. Ikegawa, S., et al. 1999. Cloning and characterization of a novel gene (C8orf2), a human representative of a novel gene family with homology to *C. elegans* C42.C1.9. Cytogenet. Cell Genet. 85: 227-231.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 611605. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Sprenger, R.R., et al. 2004. Comparative proteomics of human endothelial cell caveolae and rafts using two-dimensional gel electrophoresis and mass spectrometry. Electrophoresis 25: 156-172.
4. Sprenger, R.R., et al. 2006. Spatial segregation of transport and signalling functions between human endothelial caveolae and lipid raft proteomes. Biochem. J. 400: 401-410.
5. Browman, D.T., et al. 2006. Erlin-1 and erlin-2 are novel members of the prohibitin family of proteins that define lipid-raft-like domains of the ER. J. Cell Sci. 119: 3149-3160.
6. Pearce, M.M., et al. 2007. SPFH2 mediates the endoplasmic reticulum-associated degradation of inositol 1,4,5-trisphosphate receptors and other substrates in mammalian cells. J. Biol. Chem. 282: 20104-20115.

CHROMOSOMAL LOCATION

Genetic locus: Erlin2 (mouse) mapping to 8 A2.

PRODUCT

SPFH2 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 SPFH2 shRNA Plasmid (m): sc-76560-SH and SPFH2 shRNA (m) Lentiviral Particles: sc-76560-V as alternate gene silencing products.

For independent verification of SPFH2 (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-76560A, sc-76560B and sc-76560C.

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

SPFH2 siRNA (m) is recommended for the inhibition of SPFH2 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 SPFH2 gene expression knockdown using RT-PCR Primer: SPFH2 (m)-PR: sc-76560-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.