

ZFYVE28 siRNA (m): sc-155607

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. ZFYVE28 (zinc finger FYVE domain-containing protein 28), also known as LST2 (lateral signaling target protein 2 homolog), is an 887 amino acid protein that contains one FYVE-type zinc finger, which mediates the interaction with PI3P (phosphatidylinositol 3-phosphate). ZFYVE28 functions as a negative regulator of EGFR (epidermal growth factor receptor) by promoting its degradation in endosomes when not monoubiquitinated on Lys-87. In the absence of monoubiquitination, ZFYVE28 localizes to the early endosome membrane, while it localizes to the cytosol when it is monoubiquitinated. There are five isoforms of ZFYVE28 that are produced as a result of alternative splicing events.

REFERENCES

1. Nagase, T., Kikuno, R., Nakayama, M., Hirosawa, M. and Ohara, O. 2000. Prediction of the coding sequences of unidentified human genes. XVIII. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 7: 273-281.
2. Xing, W. and Sairam, M.R. 2002. Cross talk of two Kruppel transcription factors regulates expression of the ovine FSH receptor gene. Biochem. Biophys. Res. Commun. 295: 1096-1101.
3. Ota, T., Suzuki, Y., Nishikawa, T., Otsuki, T., Sugiyama, T., Irie, R., Wakamatsu, A., Hayashi, K., Sato, H., Nagai, K., Kimura, K., Makita, H., Sekine, M., Obayashi, M., Nishi, T., Shibahara, T., Tanaka, T., et al. 2004. Complete sequencing and characterization of 21,243 full-length human cDNAs. Nat. Genet. 36: 40-45.
4. Gerhard, D.S., Wagner, L., Feingold, E.A., Shenmen, C.M., Grouse, L.H., Schuler, G., Klein, S.L., Old, S., Rasooly, R., Good, P., Guyer, M., Peck, A.M., Derge, J.G., Lipman, D., Collins, F.S., Jang, W., Sherry, S., Feolo, M., et al. 2004. The status, quality, and expansion of the NIH full-length cDNA project: the Mammalian Gene Collection (MGC). Genome Res. 14: 2121-2127.
5. Hillier, L.W., Graves, T.A., Fulton, R.S., Fulton, L.A., Pepin, K.H., Minx, P., Wagner-McPherson, C., Layman, D., Wylie, K., Sekhon, M., Becker, M.C., Fewell, G.A., Delehaunty, K.D., et al. 2005. Generation and annotation of the DNA sequences of human chromosomes 2 and 4. Nature 434: 724-731.
6. Mosesson, Y., Chetrit, D., Schley, L., Berghoff, J., Ziv, T., Carvalho, S., Milanezi, F., Admon, A., Schmitt, F., Ehrlich, M. and Yarden, Y. 2009. Monoubiquitinylation regulates endosomal localization of Lst2, a negative regulator of EGF receptor signaling. Dev. Cell 16: 687-698.

CHROMOSOMAL LOCATION

Genetic locus: Zfyve28 (mouse) mapping to 5 B2.

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.

PRODUCT

ZFYVE28 siRNA (m) is a target-specific 19-25 nt siRNA 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 ZFYVE28 shRNA Plasmid (m): sc-155607-SH and ZFYVE28 shRNA (m) Lentiviral Particles: sc-155607-V as alternate gene silencing 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 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

ZFYVE28 siRNA (m) is recommended for the inhibition of ZFYVE28 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ZFYVE28 gene expression knockdown using RT-PCR Primer: ZFYVE28 (m)-PR: sc-155607-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.