SANTA CRUZ BIOTECHNOLOGY, INC.

FAPP1 siRNA (h): sc-94848

BACKGROUND

The members of the phosphatidylinositol kinase (PIK) superfamily can be divided into three groups based on their substrate specificity. PIKs convert phosphatidylinositol (PI) into PI phosphate [PI(3)P], PI phosphate [PI(4)P], PI bisphosphate [PI(4,5)P2] and PI triphosphate [PI(3,4,5)P3]. Phosphatidylinositides represent important regulatory molecules and are involved in a diverse array of signaling pathways. The phosphatidylinositol-four-phosphate adapter proteins, FAPP1, also designated Pleckstrin homology domain-containing family A member 3 (PLEKHA3), and FAPP2, also designated Pleckstrin homology domain-containing family A member 8 (PLEKHA8), interact with PI(4)P to mediate transport between the *trans*-Golgi network and plasma membrane.

REFERENCES

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2. Godi, A., et al. 2004. FAPPs control Golgi-to-cell-surface membrane traffic by binding to ARF and PtdIns(4)P. Nat. Cell Biol. 6: 393-404.
3. Vieira, O.V., et al. 2005. FAPP2 is involved in the transport of apical cargo in polarized MDCK cells. J. Cell Biol. 170: 521-526.
4. Balla, A., et al. 2005. A plasma membrane pool of phosphatidylinositol 4-phosphate is generated by phosphatidylinositol 4-kinase type-III α: studies with the PH domains of the oxysterol binding protein and FAPP1. Mol. Biol. Cell 16: 1282-1295.
5. Yui, N., et al. 2009. FAPP2 is required for aquaporin-2 apical sorting at *trans*-Golgi network in polarized MDCK cells. Am. J. Physiol., Cell Physiol. 297: C1389-C1396.
6. Tritz, R., et al. 2009. FAPP2 gene downregulation increases tumor cell sensitivity to Fas-induced apoptosis. Biochem. Biophys. Res. Commun. 383: 167-171.
7. Cao, X., et al. 2009. Golgi protein FAPP2 tubulates membranes. Proc. Natl. Acad. Sci. USA 106: 21121-21125.
8. Lenoir, M., et al. 2010. Structural basis of wedging the Golgi membrane by FAPP pleckstrin homology domains. EMBO Rep. 11: 279-284.

CHROMOSOMAL LOCATION

Genetic locus: PLEKHA3 (human) mapping to 2q31.2.

PRODUCT

FAPP1 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 FAPP1 shRNA Plasmid (h): sc-94848-SH and FAPP1 shRNA (h) Lentiviral Particles: sc-94848-V as alternate gene silencing products.

For independent verification of FAPP1 (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-94848A, sc-94848B and sc-94848C.

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

FAPP1 siRNA (h) is recommended for the inhibition of FAPP1 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 FAPP1 gene expression knockdown using RT-PCR Primer: FAPP1 (h)-PR: sc-94848-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.