

## FXYP2 siRNA (m): sc-42423

### BACKGROUND

The human FXYP2 (pronounced fix-id) gene maps to chromosome 11q23 and encodes the  $\gamma$  subunit of Na/K-ATPase (NKA). FXYP2  $\gamma$  subunit modulates NKA activity by inducing ion channel activity. The mammalian FXYP family maintains Na<sup>+</sup> and K<sup>+</sup> gradients between the intracellular and extracellular milieus of cells in processes such as renal Na<sup>+</sup>-reabsorption, muscle contraction and neuronal excitability. FXYPs are single-span membrane proteins that share a 35 amino acid signature domain, beginning with the sequence PFXYP and containing 7 invariant and 6 conserved amino acids. Other members of the FXYP family include FXYP1 (PLM, phospholemman), FXYP3 (Mat8, mammary tumor protein 8), FXYP4 (CHIF) and FXYP5 (RIC).

### REFERENCES

1. Sweadner, K.J., et al. 2000. The FXYP gene family of small ion transport regulators or channels: cDNA sequence, protein signature sequence, and expression. *Genomics* 68: 41-56.
2. Beguin, P., et al. 2001. CHIF, a member of the FXYP protein family, is a regulator of Na,K-ATPase distinct from the  $\gamma$ -subunit. *EMBO J.* 20: 3993-4002.
3. Crambert, G., et al. 2002. Phospholemman (FXYP1) associates with Na,K-ATPase and regulates its transport properties. *Proc. Natl. Acad. Sci. USA* 99: 11476-11481.
4. Crambert, G., et al. 2003. FXYP proteins: new tissue-specific regulators of the ubiquitous Na,K-ATPase. *Sci. STKE* 2003: RE1.
5. Crowell, K.J., et al. 2003. Expression and characterization of the FXYP ion transport regulators for NMR structural studies in lipid micelles and lipid bilayers. *Biochim. Biophys. Acta* 1645: 15-21.
6. Lindzen, M., et al. 2003. Structure-function relations of interactions between Na/K-ATPase, the  $\gamma$  subunit and corticosteroid hormone-induced factor. *J. Biol. Chem.* 278: 18738-18743.
7. LocusLink Report (LocusID: 486). <http://www.ncbi.nlm.nih.gov/LocusLink/>

### CHROMOSOMAL LOCATION

Genetic locus: Fxyd2 (mouse) mapping to 9 A5.2.

### PRODUCT

FXYP2 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see FXYP2 shRNA Plasmid (m): sc-42423-SH and FXYP2 shRNA (m) Lentiviral Particles: sc-42423-V as alternate gene silencing products.

For independent verification of FXYP2 (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-42423A, sc-42423B and sc-42423C.

### PROTOCOLS

See our web site at [www.scbt.com](http://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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

### APPLICATIONS

FXYP2 siRNA (m) is recommended for the inhibition of FXYP2 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  $\mu$ M in 66  $\mu$ 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 FXYP2 gene expression knockdown using RT-PCR Primer: FXYP2 (m)-PR: sc-42423-PR (20  $\mu$ l). 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.