SANTA CRUZ BIOTECHNOLOGY, INC.

OSTβ siRNA (m): sc-151333

BACKGROUND

The heteromeric transporter OSTα/OSTβ facilitates the transport of bile and other steroid solutes across the basolateral epithelial cell membrane of intestine, liver, testis, kidney and adrenal gland. OSTα/OSTβ expression is induced by bile acids through ligand-dependent transactivation of their genes by FXR (Farnesoid X-activated receptor). This genetic regulation suggests that in response to changes in intracellular bile acid levels, bile acids adjust the rate of their own efflux from enterocytes. OSTβ is a 128 amino acid single-pass transmembrane protein that requires OSTα to localize to the plasma membrane. Coexpression of OSTα and OSTβ is also required to convert the OSTα subunit to a mature glycosylated endoglycosidase H-resistant form, suggesting that co-expression facilitates trafficking of OSTα through the Golgi apparatus. Though widely expressed, OSTβ is present at highest levels in ileum.

REFERENCES

1. Seward, D.J., et al. 2003. Functional complementation between a novel mammalian polygenic transport complex and an evolutionarily ancient organic solute transporter, OSTα-OSTβ. J. Biol. Chem. 278: 27473-27482.
2. Dawson, P.A., et al. 2005. The heteromeric organic solute transporter α-β, Ostα-Ostβ, is an ileal basolateral bile acid transporter. J. Biol. Chem. 280: 6960-6968.
3. Landrier, J.F., et al. 2006. The nuclear receptor for bile acids, FXR, transactivates human organic solute transporter-α and -β genes. Am. J. Physiol. Gastrointest. Liver Physiol. 290: G476-G485.
4. Sun, A.Q., et al. 2007. Protein-protein interactions and membrane localization of the human organic solute transporter. Am. J. Physiol. Gastrointest. Liver Physiol. 292: G1586-G1593.
5. Li, N., et al. 2007. Heterodimerization, trafficking and membrane topology of the two proteins, Ostα and Ostβ, that constitute the organic solute and steroid transporter. Biochem. J. 407: 363-372.
6. Ballatori, N., et al. 2008. Ostα-Ostβ is required for bile acid and conjugated steroid disposition in the intestine, kidney, and liver. Am. J. Physiol. Gastrointest. Liver Physiol. 295: G179-G186.

CHROMOSOMAL LOCATION

Genetic locus: Slc51b (mouse) mapping to 9 C.

PRODUCT

OSTβ 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see OSTβ shRNA Plasmid (m): sc-151333-SH and OSTβ shRNA (m) Lentiviral Particles: sc-151333-V as alternate gene silencing products.

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

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

RESEARCH USE

For research use only, not for use in diagnostic procedures.