SANTA CRUZ BIOTECHNOLOGY, INC.

OSTβ (E-14): sc-163192

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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

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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., Fang, F., Christian, W.V., Li, N. and Hammond, C.L. 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.
7. Soroka, C.J., Xu, S., Mennone, A., Lam, P. and Boyer, J.L. 2008. N-Glycosylation of the α subunit does not influence trafficking or functional activity of the human organic solute transporter α/β. BMC Cell Biol. 9: 57.
8. Rao, A., Haywood, J., Craddock, A.L., Belinsky, M.G., Kruh, G.D. and Dawson, P.A. 2008. The organic solute transporter α-β, Ostα-Ostβ, is essential for intestinal bile acid transport and homeostasis. Proc. Natl. Acad. Sci. USA 105: 3891-3896.
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CHROMOSOMAL LOCATION

Genetic locus: OSTBETA (human) mapping to 15q22.31; Ostb (mouse) mapping to 9 C.

SOURCE

OSTβ (E-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal extracellular domain of OSTβ of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-163192 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

OSTβ (E-14) is recommended for detection of OSTβ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with OSTα.

OSTβ (E-14) is also recommended for detection of OSTβ in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for OSTβ siRNA (h): sc-90205, OSTβ siRNA (m): sc-151333, OSTβ shRNA Plasmid (h): sc-90205-SH, OSTβ shRNA Plasmid (m): sc-151333-SH, OSTβ shRNA (h) Lentiviral Particles: sc-90205-V and OSTβ shRNA (m) Lentiviral Particles: sc-151333-V.

Molecular Weight of OSTβ: 17 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Chen, F., et al. 2013. Phospholipase D2 mediates signaling by ATPase class I type 8B membrane 1. J. Lipid Res. 54: 379-385.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

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