SANTA CRUZ BIOTECHNOLOGY, INC.

OATP-A (E-15): sc-18427

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The organic anion transporting polypeptides, OATP-A (also designated OATP1, OATP1A2 and SLC21A3) and OATP-C (also designated OATP2, SLC21A6 and LST1), mediate hepatic uptake of cardiac glycosides. The expression of OATP-C, but not OATP-A, is inducible by phenobarbital and pregnenolone-16a-carbonitrile, resulting in the increased capacity of the liver to extract cardiac glycosides from the plasma. OATP-A is expressed in liver and kidney and helps mediate sodium-independent uptake of the anionic steroid conjugates dehydroepiandrosterone sulfate, estradiol-17-glucuronide and prostaglandin. OATP-C is exclusively expressed in liver and is localized to the basolateral hepatocyte membrane. Although OATP-C mRNA levels decrease during pregnancy and increase postpartum, OATP-C protein levels remain relatively constant. OATP-C transports taurocholic acid, the adrenal androgen dehydroepiandroserone sulfate, thyroid hormone, hydroxymethylglutaryl-CoA reductase inhibitor and pravastatin. OATP-C is therefore a novel organic anion transport protein that has overlapping but not identical substrate specificities with other subtypes of OATP. OATP-A and OATP-C are both pravastatin transporters, suggesting that they are responsible for the hepatic uptake of the liver-specific hydroxymethylglutaryl-CoA reductase inhibitor in mouse, rat and human.

REFERENCES

1. Hsiang, B., et al. 1999. A novel human hepatic organic anion transporting polypeptide (OATP2). J. Biol. Chem. 274: 37161-37168.
2. Konig, J., et al. 2000. Localization and genomic organization of a new hepatocellular organic anion transporting polypeptide. J. Biol. chem. 275: 23161-23168.
3. Rausch-Derra, et al. 2001. Differential effects of microsomal enzyme-inducing chemicals on the hepatic expression of rat organic anion transporters, OATP1 and OATP2. Hepatology 33: 1469-1478.
4. Isern, J., et al. 2001. Functional analysis and androgen-regulated expression of mouse organic anion transporting polypeptide 1 (Oatp1) in the kidney. Biochem. Biophys. Acta 1518: 73-78.
5. Cao, J., et al. 2001. Differential regulation of hepatic bile salt and organic anion transporters in pregnant and postpartum rats and the role of prolactin. Hepatology 33: 140-147.

CHROMOSOMAL LOCATION

Genetic locus: SLCO1A2 (human) mapping to 12p12.

SOURCE

OATP-A (E-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of OATP-A 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-18427 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

OATP-A (E-15) is recommended for detection of OATP-A of 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).

Suitable for use as control antibody for OATP-A siRNA (h): sc-42548, OATP-A shRNA Plasmid (h): sc-42548-SH and OATP-A shRNA (h) Lentiviral Particles: sc-42548-V.

Molecular Weight of OATP-A: 80 kDa.

Positive Controls: SK-N-MC cell lysate: sc-2237.

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.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.