

# OCT2 (C-13): sc-19814

## BACKGROUND

Organic cation transporters (OCT) are expressed in the plasma membrane of epithelial cells from a wide range of tissues, where they function in the elimination of endogenous amines, cationic drugs and other xenobiotics. The structure of OCTs consists of a 12-transmembrane-domain structure and a large extracellular hydrophilic loop. In humans, OCT1 is primarily expressed in the liver, while OCT2 is expressed in the kidney. OCT3 is expressed in the placenta, skeletal muscle, prostate, aorta and liver. OCT2, also known as SLC22A2, is a multi-specific transporter protein localizing to the basolateral and luminal membranes of the kidney distal tubule and proximal tubules. OCT2 is responsible for mediating the pH-sensitive tubular uptake of organic compounds from circulation. An additional splice variant exists for OCT2, namely OCT2-A.

## REFERENCES

- Gorboulev, V., et al. 1997. Cloning and characterization of two human polyspecific organic cation transporters. *DNA Cell. Biol.* 16: 871-881.
- Koepsell, H. 1998. Organic cation transporters in intestine, kidney, liver, and brain. *Annu. Rev. Physiol.* 60: 246-266.
- Wu, X., et al. 1998. Identity of the organic cation transporter OCT3 as the extraneuronal monoamine transporter (uptake2) and evidence for the expression of the transporter in the brain. *J. Biol. Chem.* 273: 32776-32786.
- Dresser, M.J., et al. 1999. Molecular and functional characteristics of clones human organic cation transporters. *Pharm. Biotechnol.* 12: 441-469.
- Verhaagh, S., et al. 1999. Cloning of the mouse and human solute carrier 22a3 (Slc22a3/SLC22A#) identifies a conserved cluster three organic cation transporters on mouse chromosome 17 and human 6q26-q27. *Genomics* 55: 209-218.

## CHROMOSOMAL LOCATION

Genetic locus: SLC22A2 (human) mapping to 6q25.3; Slc22a2 (mouse) mapping to 17 A1.

## SOURCE

OCT2 (C-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of OCT2 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-19814 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## 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.

## APPLICATIONS

OCT2 (C-13) is recommended for detection of OCT2 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).

Suitable for use as control antibody for OCT2 siRNA (h): sc-42554, OCT2 siRNA (m): sc-42555, OCT2 shRNA Plasmid (h): sc-42554-SH, OCT2 shRNA Plasmid (m): sc-42555-SH, OCT2 shRNA (h) Lentiviral Particles: sc-42554-V and OCT2 shRNA (m) Lentiviral Particles: sc-42555-V.

Molecular Weight of OCT2 isoforms: 63/55/27 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

## 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

- Zoldakova, M., et al. 2010. Effects of a combretastatin A4 analogous chalcone and its Pt-complex on cancer cells: a comparative study of uptake, cell cycle and damage to cellular compartments. *Biochem. Pharmacol.* 80: 1487-1496.
- Genter, M.B., et al. 2010. Drug transporter expression and localization in rat nasal respiratory and olfactory mucosa and olfactory bulb. *Drug Metab. Dispos.* 38: 1644-1647.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.