

OAT2 (G-18): sc-102044

BACKGROUND

The organic anion transporter (OAT) family of proteins is comprised of OAT1 (SLC22A6), OAT2 (SLC22A7), OAT3 (SLC22A8), OAT4 (SLC22A11), OAT5 (SLC22A19), OAT6 (SLC22A20) and URAT1 (SLC22A12). The OAT family mediates the absorption, distribution and excretion of endogenous metabolites, such as urate and acidic neurotransmitter metabolites, as well as a multitude of exogenous compounds, including antibiotics, antihypertensives, antivirals, anti-inflammatory drugs, diuretics and uricosurics. Members of the OAT family are mainly located in kidney with some specific members also being expressed in liver, placenta and brain. Disruption of OAT function in any of these organs may lead to renal, hepatic, neurological and fetal toxicity and diseases. OAT2 is highly expressed in liver, but also shows expression in kidney. OAT2 is a multi-specific exchanger that has been shown to mediate the transport of propionate, bumetanide, estrone sulfate, glutarate, dehydroepiandrosterone sulfate, allopurinol, prostaglandin E2, 5-fluorouracil, paclitaxel and L-ascorbic acid. The OAT2 isoform also displays a sex- and species-related differential expression with a greater expression in females due to a strong androgen inhibition and weak estrogen and progesterone stimulation.

REFERENCES

1. Cha, S.H., et al. 2002. Downregulation of organic anion transporter 2 mRNA expression by nitric oxide in primary cultured rat hepatocytes. *IUBMB Life* 54: 129-135.
2. Kobayashi, Y., et al. 2002. Isolation, characterization and differential gene expression of multispecific organic anion transporter 2 in mice. *Mol. Pharmacol.* 62: 7-14.
3. Khamdang, S., et al. 2003. Interaction of human and rat organic anion transporter 2 with various cephalosporin antibiotics. *Eur. J. Pharmacol.* 465: 1-7.
4. Kobayashi, Y., et al. 2005. Transport mechanism and substrate specificity of human organic anion transporter 2 (hOAT2 [SLC22A7]). *J. Pharm. Pharmacol.* 57: 573-578.
5. Ljubojevic, M., et al. 2007. Renal expression of organic anion transporter OAT2 in rats and mice is regulated by sex hormones. *Am. J. Physiol. Renal Physiol.* 292: F361-F372.

CHROMOSOMAL LOCATION

Genetic locus: SLC22A7 (human) mapping to 6p21.1.

SOURCE

OAT2 (G-18) is a purified rabbit polyclonal antibody raised against OAT2 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

STORAGE

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

APPLICATIONS

OAT2 (G-18) is recommended for detection of OAT2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 OAT2 siRNA (h): sc-95603, OAT2 shRNA Plasmid (h): sc-95603-SH and OAT2 shRNA (h) Lentiviral Particles: sc-95603-V.

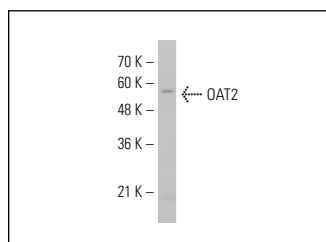
Molecular Weight of OAT2: 66 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or human muscle tissue.

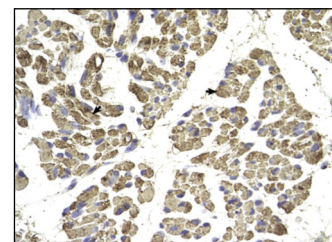
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



OAT2 (G-18): sc-102044. Western blot analysis of OAT2 expression in Jurkat whole cell lysate.



OAT2 (G-18): sc-102044. Immunoperoxidase staining of formalin fixed, paraffin-embedded human muscle tissue showing cytoplasmic staining.

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.