

OAT3 (3C11): sc-293264

BACKGROUND

The organic anion transporter (OAT) family of proteins mediate the secretion of exogenous and endogenous metabolites from tissues throughout the body. OAT1 (organic anion transporter 1), a 563 amino acid protein, and OAT3 (organic anion transporter 3), a 542 amino acid protein, are two members of the OAT family and are highly expressed in kidneys. Localized specifically to the basolateral membrane, OAT1 and OAT3 are involved in the elimination of toxic organic anions, such as benzylpenicillin and cimetidine, from proximal renal tubules. Via their ability to remove anions from renal tissues, OAT1 and OAT3 are able to regulate the amount of toxins within the kidneys. Additionally, OAT1 functions as an organic anion exchanger that couples the uptake of one organic anion molecule with the efflux of one endogenous dicarboxylic acid molecule, such as ketoglutarate. Four isoforms of OAT1 and three isoforms of OAT3 are expressed due to alternative splicing events.

REFERENCES

1. Lu, R., et al. 1999. Cloning of the human kidney PAH transporter: narrow substrate specificity and regulation by protein kinase C. *Am. J. Physiol.* 276: F295-F303.
2. Race, J.E., et al. 1999. Molecular cloning and characterization of two novel human renal organic anion transporters (hOAT1 and hOAT3). *Biochem. Biophys. Res. Commun.* 255: 508-514.

CHROMOSOMAL LOCATION

Genetic locus: SLC22A8 (human) mapping to 11q12.3; Slc22a8 (mouse) mapping to 19 A.

SOURCE

OAT3 (3C11) is a mouse monoclonal antibody raised against amino acids 256-325 of OAT3 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

OAT3 (3C11) is recommended for detection of OAT3 of mouse, rat and 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for OAT3 siRNA (h): sc-96554, OAT3 siRNA (m): sc-150151, OAT3 shRNA Plasmid (h): sc-96554-SH, OAT3 shRNA Plasmid (m): sc-150151-SH, OAT3 shRNA (h) Lentiviral Particles: sc-96554-V and OAT3 shRNA (m) Lentiviral Particles: sc-150151-V.

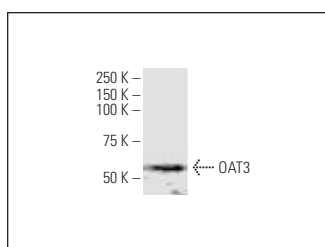
Molecular Weight of OAT3: 62 kDa.

Positive Controls: rat muscle tissue extract.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



OAT3 (3C11): sc-293264. Western blot analysis of OAT3 expression in rat muscle tissue extract.

SELECT PRODUCT CITATIONS

1. Wang, H. and You, G. 2019. The SUMO-specific protease Senp2 regulates SUMOylation, expression and function of human organic anion transporter 3. *Biochim. Biophys. Acta Biomembr.* 1861: 1293-1301.
2. Shen, Q., et al. 2019. Key role of organic cation transporter 2 for the nephrotoxicity effect of triptolide in rheumatoid arthritis. *Int. Immunopharmacol.* 77: 105959.
3. Karimian Pour, N., et al. 2019. Impact of viral inflammation on the expression of renal drug transporters in pregnant rats. *Pharmaceutics* 11: 624.
4. Neamatallah, T., et al. 2020. Nano ellagic acid counteracts cisplatin-induced upregulation in OAT1 and OAT3: a possible nephroprotection mechanism. *Molecules* 25: 3031.
5. Ren, Q., et al. 2021. Natural flavonol fisetin attenuated hyperuricemic nephropathy via inhibiting IL-6/JAK2/STAT3 and TGF-β/SMAD3 signaling. *Phytomedicine* 87: 153552.

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 for detailed protocols and support products.