SANTA CRUZ BIOTECHNOLOGY, INC.

hepatic OAT (D-10): sc-376050

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

OAT (ornithine aminotransferase (mitochondrial), ornithine-oxo-acid aminotransferase) is a 439 amino acid protein encoded by the human gene OAT. OAT belongs to the class III pyridoxal-phosphate-dependent aminotransferase family and is usually found as a homotetramer in the mitochondrion matrix. OAT catalyzes the major catalytic reaction for ornithine. Ornithinemia, presumably due to deficiency of ornithine ketoacid aminotransferase (OAT) has been found in patients with gyrate atrophy of the choroid and retina. The clinical history of gyrate atrophy is usually night blindness that begins in late childhood, accompanied by sharply demarcated circular areas of chorioretinal atrophy. During the second and third decades the areas of atrophy enlarge. The hepatic cleavage product, hepatic OAT, is formed by cleaving a 25 amino acid transit peptide from the N-terminus of the OAT precursor. The renal form is produced by cleaving a 35 amino acid transit peptide from the N-terminus.

REFERENCES

1. Ramesh, V., et al. 1991. Molecular pathology of gyrate atrophy of the choroid and retina due to ornithine aminotransferase deficiency. Mol. Biol. Med. 8: 81-93.
2. Michaud, J., et al. 1992. Strand-separating conformational polymorphism analysis: efficacy of detection of point mutations in the human ornithine δ-aminotransferase gene. Genomics 13: 389-394.
3. Shah, S.A., et al. 1997. Human ornithine aminotransferase complexed with L-canaline and gabaculine: structural basis for substrate recognition. Structure 5: 1067-1075.
4. Buard, J., et al. 2000. Somatic versus germline mutation processes at minisatellite CEB1 (D2S90) in humans and transgenic mice. Genomics 65: 95-103.

CHROMOSOMAL LOCATION

Genetic locus: OAT (human) mapping to 10q26.13; Oat (mouse) mapping to 7 F3.

SOURCE

hepatic OAT (D-10) is a mouse monoclonal antibody raised against amino acids 101-230 mapping within an internal region of OAT of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

hepatic OAT (D-10) is available conjugated to agarose (sc-376050 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376050 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376050 PE), fluorescein (sc-376050 FITC), Alexa Fluor® 488 (sc-376050 AF488), Alexa Fluor® 546 (sc-376050 AF546), Alexa Fluor® 594 (sc-376050 AF594) or Alexa Fluor® 647 (sc-376050 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376050 AF680) or Alexa Fluor® 790 (sc-376050 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

hepatic OAT (D-10) is recommended for detection of hepatic OAT of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for OAT siRNA (h): sc-62709, OAT siRNA (m): sc-62710, OAT shRNA Plasmid (h): sc-62709-SH, OAT shRNA Plasmid (m): sc-62710-SH, OAT shRNA (h) Lentiviral Particles: sc-62709-V and OAT shRNA (m) Lentiviral Particles: sc-62710-V.

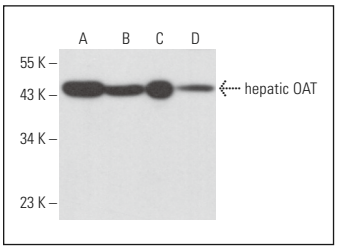
Molecular Weight of hepatic OAT: 49 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, c4 whole cell lysate: sc-364186 or KNRK whole cell lysate: sc-2214.

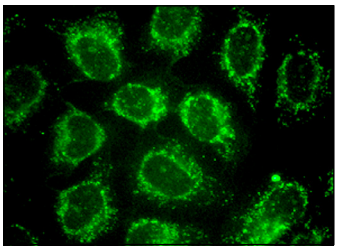
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



hepatic OAT (D-10): sc-376050. Western blot analysis of hepatic OAT expression in c4 (**A**), RAW 264.7 (**B**) and KNRK (**C**) whole cell lysates and rat eye tissue extract (**D**).



hepatic OAT (D-10): sc-376050. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

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.