

OAT (G-20): sc-55732

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.
5. Cleary, M.A., et al. 2005. Ornithine aminotransferase deficiency: diagnostic difficulties in neonatal presentation. *J. Inher. Metab. Dis.* 28: 673-679.

CHROMOSOMAL LOCATION

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

SOURCE

OAT (G-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of OAT of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-55732 P, (100 μ g 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.

APPLICATIONS

OAT (G-20) is recommended for detection of hepatic and renal forms of ornithine aminotransferase of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

OAT (G-20) is also recommended for detection of hepatic and renal forms of ornithine aminotransferase in additional species, including equine, canine, bovine, porcine and avian.

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.

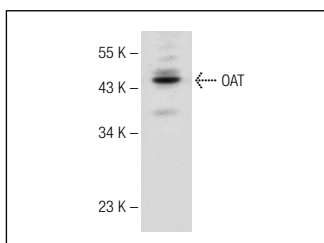
Molecular Weight of OAT: 49 kDa.

Positive Controls: Daudi cell lysate: sc-2415.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



OAT (G-20): sc-55732. Western blot analysis of OAT expression in Daudi whole cell lysate.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

MONOS
Satisfaction
Guaranteed

Try **OAT (A-12): sc-374243** or **hepatic OAT (D-10): sc-376050**, our highly recommended monoclonal alternatives to OAT (G-20).