SANTA CRUZ BIOTECHNOLOGY, INC.

OAT (A-12): sc-374243

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.

CHROMOSOMAL LOCATION

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

SOURCE

OAT (A-12) is a mouse monoclonal antibody raised against amino acids 96-230 mapping within an internal region of OAT of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

OAT (A-12) is available conjugated to agarose (sc-374243 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-374243 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374243 PE), fluorescein (sc-374243 FITC), Alexa Fluor® 488 (sc-374243 AF488), Alexa Fluor® 546 (sc-374243 AF546), Alexa Fluor® 594 (sc-374243 AF594) or Alexa Fluor® 647 (sc-374243 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374243 AF680) or Alexa Fluor® 790 (sc-374243 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

OAT (A-12) is recommended for detection of hepatic and renal forms of ornithine aminotransferase 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), 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 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.

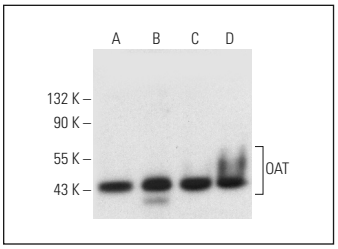
Molecular Weight of OAT: 49 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

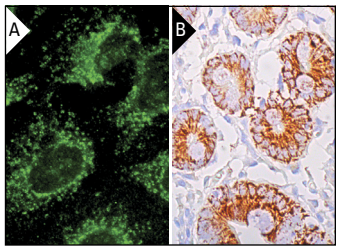
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



OAT (A-12): sc-374243. Western blot analysis of OAT expression in HeLa (**A**), HEK293 (**B**), MDA-MB-231 (**C**) and K-562 (**D**) whole cell lysates.



OAT (A-12): sc-374243. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells. Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214. Detection reagents used: m-IgGκ BP-B: sc-516142 and ImmunoCruz® ABC Kit: sc-516216 (**B**).

SELECT PRODUCT CITATIONS

1. Koike, S., et al. 2020. An increase in liver polyamine concentration contributes to the tryptophan-induced acute stimulation of rat hepatic protein synthesis. Nutrients 12: 2665.

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.