

# OTC (K-13): sc-132401

## BACKGROUND

OTC (ornithine carbamoyltransferase), also known as OTC<sub>Case</sub>, is a 354 amino acid protein that belongs to the ATCase/OTCase family of proteins. Expressed in liver and intestinal mucosa, OTC localizes to the mitochondrial matrix and exists as a homotrimer. Specifically, OTC plays a vital role in the urea cycle, catalyzing the second step in this pathway: the formation of L-citrulline from L-ornithine and carbamoyl phosphate. In humans, the urea cycle is an important pathway to detoxification of ammonia. Mutations in the gene encoding OTC are associated with the X-linked disorder OTCD (ornithine carbamoyltransferase deficiency). OTCD is a disorder of the urea cycle characterized by hyperammonemia. In males, OTCD is fatal, whereas females express variable symptoms. In addition, the OTC gene localizes near a region of the X chromosome that is associated with Duchenne muscular dystrophy, suggesting a possible role in that disease as well.

## CHROMOSOMAL LOCATION

Genetic locus: OTC (human) mapping to Xp11.4; Otc (mouse) mapping to X A1.1.

## SOURCE

OTC (K-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of OTC of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-132401 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

OTC (K-13) is recommended for detection of OTC 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)], 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).

OTC (K-13) is also recommended for detection of OTC in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for OTC siRNA (h): sc-91306, OTC siRNA (m): sc-151338, OTC shRNA Plasmid (h): sc-91306-SH, OTC shRNA Plasmid (m): sc-151338-SH, OTC shRNA (h) Lentiviral Particles: sc-91306-V and OTC shRNA (m) Lentiviral Particles: sc-151338-V.

Molecular Weight of OTC precursor: 40 kDa.

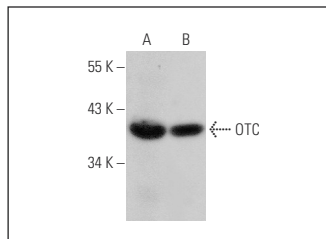
Molecular Weight of OTC mature subunit of homotrimer: 36 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, mouse liver extract: sc-2256 or rat liver extract: sc-2395.

## 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



OTC (K-13): sc-132401. Western blot analysis of OTC expression in mouse liver (A) and rat liver (B) tissue extracts.

## SELECT PRODUCT CITATIONS

- Unuma, K., et al. 2013. Elimination and active extrusion of liver mitochondrial proteins during lipopolysaccharide administration in rat. *Hepatology*. Res. 43: 526-534.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

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Try **OTC (E-9): sc-515791**, our highly recommended monoclonal alternative to OTC (K-13).