Anti-OTC/Ornithine Carbamoyltransferase Antibody

HA500048

Product Type:	Rabbit polyclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IF-Cell, IHC-P
Molecular Wt:	40 kDa

Description: Ornithine transcarbamylase (OTC) (also called ornithine carbamoyltransferase) is an enzyme (EC 2.1.3.3) that catalyzes the reaction between carbamoyl phosphate (CP) and ornithine (Orn) to form citrulline (Cit) and phosphate (Pi). There are two classes of OTC anabolic and catabolic. This article focuses on anabolic OTC. Anabolic OTC facilitates the sixth step in the biosynthesis of the amino acid arginine in prokaryotes.[5] In contrast, mammalian OTC plays an essential role in the urea cycle whose purpose is to capture toxic ammonia and transform it into less toxic urea nitrogen source for excretion.

Immunogen: Recombinant protein within human OTC/Ornithine Carbamoyltransferase aa 200-354.

Positive control: Rat colon tissue lysate, human liver tissue lysate, mouse liver tissue lysate, SW480, human liver carcinoma tissue, human liver tissue.

Subcellular location: Mitochondrion.

Database links: SwissProt: P00480 Human | P11725 Mouse | P00481 Rat

Recommended Dilutions:

WB	1:1,000-1:5,000
IF-Cell	1:50-1:200
IHC-P	1:100-1:500

Storage Buffer: 1*TBS (pH7.4), 0.2% BSA, 50% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.

Purity: Immunogen affinity purified.

Images

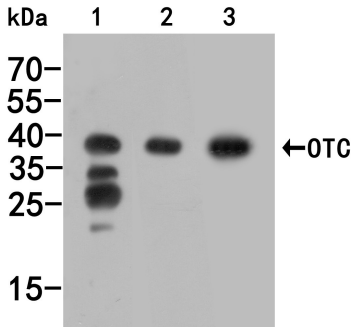

Fig1: Western blot analysis of OTC/Ornithine Carbamoyltransferase on different lysates. Proteins were transferred to a PVDF membrane and blocked with 5% BSA in PBS for 1 hour at room temperature. The primary antibody (HA500048, 1/500) was used in 5% BSA at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:5,000 dilution was used for 1 hour at room temperature.
Positive control:
Lane 1: Rat colon tissue lysate
Lane 2: Human liver tissue lysate
Lane 2: Mouse liver tissue lysate

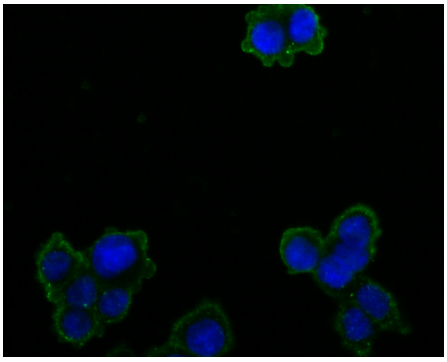

Fig2: ICC staining of OTC/Ornithine Carbamoyltransferase in SW480 cells (green). Formalin fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 10 minutes at room temperature and blocked with 1% Blocker BSA for 15 minutes at room temperature. Cells were probed with the primary antibody (HA500048, 1/100) for 1 hour at room temperature, washed with PBS. Alexa Fluor®488 Goat anti-Rabbit IgG was used as the secondary antibody at 1/1,000 dilution. The nuclear counter stain is DAPI (blue).

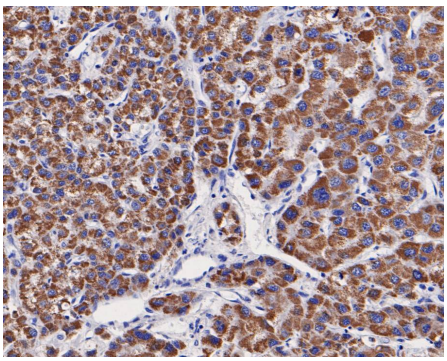

Fig3: Immunohistochemical analysis of paraffin-embedded human liver carcinoma tissue using anti-OTC/Ornithine Carbamoyltransferase antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 8.0-8.4) for 20 minutes.The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA500048, 1/400) for 30 minutes at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

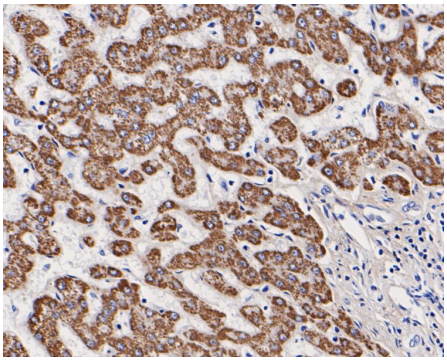

Fig4: Immunohistochemical analysis of paraffin-embedded human liver tissue using anti-OTC/Ornithine Carbamoyltransferase antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 8.0-8.4) for 20 minutes.The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA500048, 1/400) for 30 minutes at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

Background References

1. Yu W. et. al. Lysine 88 acetylation negatively regulates ornithine carbamoyltransferase activity in response to nutrient signals. J. Biol. Chem. 284:13669-13675(2009).