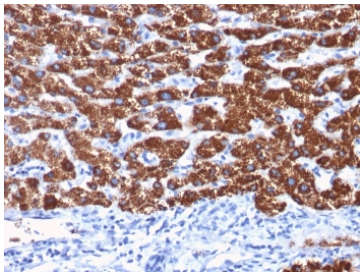
Hep Par 1 Antibody / Hepatocyte Paraffin 1 [clone OCH1E5] (V2341)

Catalog No.	Formulation	Size
V2341-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2341-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2341SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V2341IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

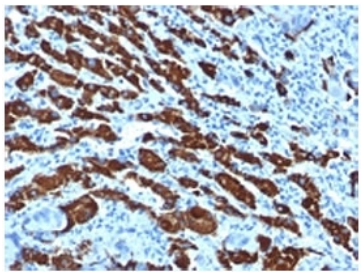
Citations (13)

Bulk quote request

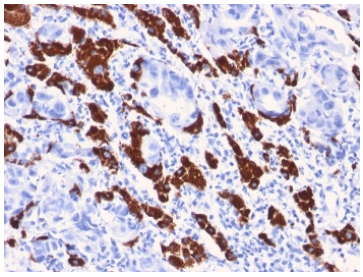
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	OCH1E5
Purity	Protein G affinity
Buffer	1X PBS, pH 7.4
Gene ID	Unknown
Localization	Finely granular cytoplasmic
Applications	Immunofluorescence : 0.5-1ug/ml Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT
Limitations	This Hep Par 1 antibody is available for research use only.



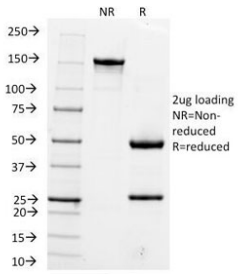
Immunohistochemistry of Hep Par 1 antibody in human hepatocellular carcinoma tissue. FFPE human hepatocellular carcinoma demonstrates strong, diffuse cytoplasmic HRP-DAB brown staining within tumor hepatocytes, consistent with Hepatocyte Specific Antigen / CPS1 expression and hepatocellular differentiation. Clone OCH1E5 was used as a monoclonal antibody for detection. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 9 10 mM Tris with 1 mM EDTA for 20 minutes followed by cooling prior to staining.



IHC staining of human hepatocellular carcinoma with Hep Par 1 antibody (clone OCH1E5). HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



IHC staining of human liver with Hep Par 1 antibody (clone OCH1E5). HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



SDS-PAGE analysis of purified, BSA-free Hep Par 1 antibody (clone OCH1E5) as confirmation of integrity and purity.

Description

Hep Par 1 antibody recognizes Hepatocyte Paraffin 1, a mitochondrial antigen identified as carbamoyl phosphate synthetase 1 (CPS1), a key enzyme of the hepatic urea cycle. The antigen detected by clone OCH1E5 corresponds to CPS1, a rate-limiting mitochondrial enzyme responsible for initiating ammonia detoxification through conversion of ammonia and bicarbonate into carbamoyl phosphate. Hep Par 1 Antibody therefore detects a protein central to hepatic nitrogen metabolism and mitochondrial biochemical function.

CPS1 is encoded by the CPS1 gene and is localized to the mitochondrial matrix of hepatocytes, where it catalyzes the first committed step of the urea cycle. This metabolic pathway is essential for systemic ammonia clearance and prevention of hyperammonemia. High physiologic expression of CPS1 in hepatocytes reflects the liverÃ¢Â€Â™s dominant role in nitrogen homeostasis. The granular cytoplasmic staining pattern observed with Hep Par 1 antibody corresponds to mitochondrial distribution of CPS1 within hepatic cells.

Alterations in CPS1 expression have been studied in the context of metabolic liver disorders, mitochondrial dysfunction, and hepatocellular carcinoma. Reduced or heterogeneous CPS1 expression has been associated with altered metabolic states and tumor progression in some experimental models. Beyond tumor identification, CPS1 has been investigated for its broader role in hepatic metabolic reprogramming and mitochondrial enzyme regulation.

Because CPS1 is a highly liver-enriched mitochondrial enzyme, detection with Hep Par 1 antibody supports research applications focused on hepatocyte metabolism, urea cycle biology, and mitochondrial enzyme expression. The strong physiologic abundance of CPS1 in normal liver tissue makes it a robust marker of hepatic metabolic activity in controlled experimental systems.

Clone OCH1E5 is a monoclonal antibody that recognizes Hepatocyte Paraffin 1 / CPS1 and supports studies of hepatic metabolism, mitochondrial enzyme regulation, and nitrogen detoxification pathways in research settings.

Application Notes

The concentration stated for each application is a general starting point. Variations in protocols, secondaries and substrates may require the Hep Par 1 antibody to be titered up or down for optimal performance.

1. The prediluted format is supplied in a dropper bottle and is optimized for use in IHC. After epitope retrieval step (if required), drip mAb solution onto the tissue section and incubate at RT for 30 min.

Immunogen

Extract of a formalin-fixed, rejected-allograft of a human liver was used as the immunogen for this Hep Par 1 antibody.

Storage

Store the Hep Par 1 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

References (2)