

Mouse Anti-CPS1/Carbamoyl-Phosphate Synthetase (Hepatocellular Marker) [SPM615]: MC0036

Intended Use: For Research Use Only

Description: This antibody recognizes a protein of 165kDa, identified as carbamoyl phosphate synthetase 1 (CPS1). This mitochondrial enzyme catalyzes synthesis of carbamoyl phosphate from ammonia and bicarbonate. This reaction is the first committed step of the urea cycle, which is important in the removal of excess urea from cells. Deficiency of CPS1 is an autosomal recessive disorder that causes hyperammonemia. CPS1 is a hepatocyte specific protein that localizes to the mitochondria of hepatocytes. It is a sensitive marker for distinguishing hepatocellular carcinomas (HCC) from other metastatic carcinomas as well as cholangio-carcinomas. HCCs occur primarily in the stomach, but they are also found in many other organs. CPS1 may also be a useful marker for intestinal metaplasia. Reportedly, strong expression of CPS1 correlates with smaller tumor size and longer patient survival. Occasionally, CPS1 is also found in gastric carcinomas as well as in a few other non-hepatic tumors.

Specifications

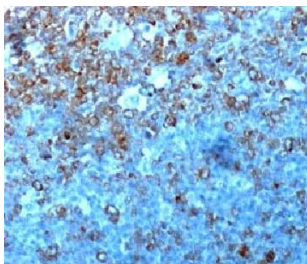
Clone: SPM615
 Source: Mouse
 Isotype: IgG1
 Reactivity: Human, dog
 Localization: Finely granular cytoplasm
 Formulation: Antibody in PBS pH7.4, containing BSA and $\leq 0.09\%$ sodium azide (NaN₃)
 Storage: Store at 2°- 8°C.
 Applications: IHC, ICC/IF
 Package:

Description	Catalog No.	Size
CPS1/Carbamoyl-Phosphate Synthetase (Hepatocellular Marker) Concentrated	MC0036	1 ml

IHC Procedure*

Positive Control Tissue: HeLa cells. Liver or Hepatocellular Carcinoma (HCC)
 Concentrated Dilution: 100-300
 Pretreatment: EDTA pH8.0, 15 minutes using Pressure Cooker, or 30-60 minutes using water bath at 95°-99°C
 Incubation Time and Temp: 30-60 minutes @ RT
 Detection: Refer to the detection system manual

* Result should be confirmed by an established diagnostic procedure.



FFPE human tonsil stained with anti-CPS1 using DAB

References

1. High nuclear/cytoplasmic ratio of Cdk1 expression predicts poor prognosis in colorectal cancer patients. Sung WW, et al. BMC Cancer. Dec 15;14:951, 2014.
2. Androgen receptor phosphorylation at serine 515 by Cdk1 predicts biochemical relapse in prostate cancer patients. Willder JM, et al. Br J Cancer. Jan 15;108(1):139-48, 2013.
3. Mitosis persists in the absence of Cdk1 activity when proteolysis or protein phosphatase activity is suppressed. Skoufias DA, et al. J Cell Biol. Nov 19;179(4):671-85, 2007.