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CPS1 / Carbamoyl-Phosphate Synthetase (Hepatocellular Marker) Antibody - With BSA and Azide

Mouse Monoclonal Antibody [Clone SPM615]
Catalog # AH11120

Product Information

Application	IHC, IF
Primary Accession	P31327
Other Accession	1373, 149252
Reactivity	Human, Dog
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse / IgG1
Clone Names	SPM615
Calculated MW	164939

Additional Information

Gene ID	1373
Other Names	Carbamoyl-phosphate synthase [ammonia], mitochondrial, 6.3.4.16, Carbamoyl-phosphate synthetase I, CPSase I, CPS1
Application Note	IHC~~1:100~500 IF~~1:50~200
Storage	Store at 2 to 8°C.Antibody is stable for 24 months.
Precautions	CPS1 / Carbamoyl-Phosphate Synthetase (Hepatocellular Marker) Antibody - With BSA and Azide is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CPS1
Function	Involved in the urea cycle of ureotelic animals where the enzyme plays an important role in removing excess ammonia from the cell.
Cellular Location	Mitochondrion. Nucleus, nucleolus. Cell membrane {ECO:0000250|UniProtKB:Q8C196}; Peripheral membrane protein; Extracellular side {ECO:0000250|UniProtKB:Q8C196} Note=Localizes to the cell surface of hepatocytes {ECO:0000250|UniProtKB:Q8C196}
Tissue Location	Primarily in the liver and small intestine.

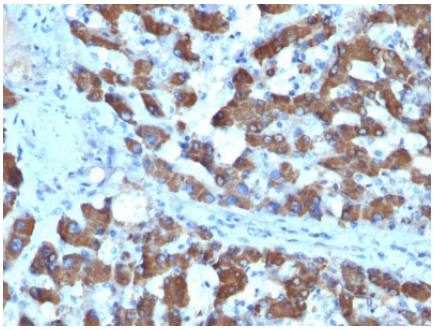
Background

This MAb 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. HCC s 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.

References

Haraguchi, Y., et al. 1991. Cloning and sequence of a cDNA encoding human carbamyl phosphate synthetase I: molecular analysis of hyperam- monemia. Gene 107: 335-340. | Ramos-Vara, J.A., et al. Histochem 2002; J. 34: 397-401. | Fan, Z., et al. Mod. Pathol 2003; 16: 137-144, 2003. |

Images



Formalin-fixed, paraffin-embedded human Hepatocellular Carcinoma stained with CPS1 Monoclonal Antibody (SPM615).