# CPSM Antibody – Rabbit Polyclonal

## PRODUCT OVERVIEW

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| **Product Name** | CPSM, Polyclonal Antibody |
| **Full Product Name** | CPSM Rabbit Polyclonal Antibody |
| **Product Gene Name** | anti-CPSM antibody |
| **Product Synonym Gene Name** | CPS1 |
| **Product Synonym Names** | BH6842; Carbamoyl-phosphate synthase [ammonia], mitochondrial (EC 6.3.4.16)(Carbamoyl-phosphate synthetase I)(CPSase I) |
| **Clonality** | Polyclonal |
| **Host** | Rabbit |
| **Species Reactivity** | Human, Mouse, Rat |
| **Form/Format** | Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide. |
| **Purity/Purification** | The antibody was affinity-purified from rabbit serum by affinity-chromatography using specific immunogen. |
| **Concentration** | 1mg/ml (lot specific) |
| **Specificity** | The antibody detects endogenous levels of human CPSM |
| **Preparation and Storage** | Store at -20 degree C/1 year |
| **Molecular Weight** | 165,650 Da |
| **OMIM** | gene 615371 |
| **3D Structure** | ModBase 3D Structure for P31327 |
| **Immunogen** | Synthesized peptide derived from human CPSM |
| **Modification** | Unmodified/Total |
| **Applications Tested/Suitable for anti-CPSM antibody** | Western Blot (WB) |
| **Application Notes for anti-CPSM antibody** | WB: 1:1000-2000 |
| **Related Product Information for anti-CPSM antibody** | MBS9514037 is an antibody targeting CPSM. Also known as CPSM Rabbit Polyclonal Antibody. Reactive in Human, Mouse, Rat. Host: Rabbit. |
| **Other Notes** | Small volumes of anti-CPSM antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply. |

## ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for CPSM. It may not necessarily be applicable to this product.

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| **NCBI GI #** | 21361331 |
| **NCBI GeneID** | 1373 |
| **NCBI Accession #** | NP_001866.2 |

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| **UniProt Primary Accession #** | P31327 |
| **UniProt Secondary Accession #** | O43774; Q53TL5; Q59HF8; Q7Z5I5; B7Z818; J3KQL0 |
| **UniProt Related Accession #** | P31327 |
| **GenBank Nucleotide #** | NM_001875.4 |
| **NCBI Official Full Name** | carbamoyl-phosphate synthase |
| **NCBI Official Synonym Full Names** | carbamoyl-phosphate synthase 1, mitochondrial |
| **NCBI Official Symbol** | CPS1 |
| **NCBI Official Synonym Symbols** | PHN; CPSASE1 |
| **UniProt Protein Name** | Carbamoyl-phosphate synthase [ammonia], mitochondrial |
| **UniProt Synonym Protein Names** | Carbamoyl-phosphate synthetase I; CPSase I |
| **UniProt Gene Name** | CPS1 |
| **UniProt Synonym Gene Names** | CPSase I |
| **UniProt Entry Name** | CPSM_HUMAN |
| **NCBI Protein Information** | carbamoyl-phosphate synthase [ammonia], mitochondrial; carbamoyl-phosphate synthase [ammonia], mitochondrial; carbamoylphosphate synthetase I |
| **NCBI Summary for CPSM** | The mitochondrial enzyme encoded by this gene 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. The encoded protein may also represent a core mitochondrial nucleoid protein. Three transcript variants encoding different isoforms have been found for this gene. The shortest isoform may not be localized to the mitochondrion. Mutations in this gene have been associated with carbamoyl phosphate synthetase deficiency, susceptibility to persistent pulmonary hypertension, and susceptibility to venoocclusive disease after bone marrow transplantation.[provided by RefSeq, May 2010] |
| **UniProt Comments for CPSM** | CPS1: Involved in the urea cycle of ureotelic animals where the enzyme plays an important role in removing excess ammonia from the cell. Defects in CPS1 are the cause of carbamoyl phosphate synthetase 1 deficiency (CPS1D). CPS1D is an autosomal recessive disorder of the urea cycle causing hyperammonemia. Clinical features include protein intolerance, intermittent ataxia, seizures, lethargy, developmental delay and mental retardation. Genetic variations in CPS1 influence the availability of precursors for nitric oxide (NO) synthesis and play a role in clinical situations where endogenous NO production is critically important, such as neonatal pulmonary hypertension, increased pulmonary artery pressure following surgical repair of congenital heart defects or hepatovenocclusive disease following bone marrow transplantation. Infants with neonatal pulmonary hypertension homozygous for Thr-1406 have lower L-arginine concentrations than neonates homozygous for Asn-1406. 2 isoforms of the human protein are produced by alternative splicing.<br><br>Protein type: Amino Acid Metabolism - arginine and proline; Mitochondrial; Nucleolus; Ligase; EC 6.3.4.16; Energy Metabolism - nitrogen; Amino Acid Metabolism - alanine, aspartate and glutamate<br><br>Chromosomal Location of Human Ortholog: 2q35<br><br>Cellular Component: protein complex; mitochondrial matrix; mitochondrial inner membrane; nucleolus<br><br>Molecular Function: carbamoyl-phosphate synthase (ammonia) activity; protein binding; glutamate binding; carbamoyl-phosphate synthase (glutamine-hydrolyzing) activity; endopeptidase activity; protein complex binding; phospholipid binding; calcium ion binding; ATP binding<br><br>Biological Process: response to food; response to drug; glycogen catabolic process; arginine biosynthetic process; response to toxin; response to lipopolysaccharide; homocysteine metabolic process; positive regulation of vasodilation; proteolysis; response to amino acid stimulus; nitric oxide metabolic process; response to starvation; citrulline biosynthetic process; response to zinc ion; triacylglycerol catabolic process; glutamine catabolic process; midgut development; anion homeostasis; response to amine stimulus; urea cycle<br><br>Disease: Pulmonary Hypertension, Neonatal, Susceptibility To; Carbamoyl Phosphate Synthetase I Deficiency, Hyperammonemia Due To |

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| **Research Articles on CPSM** | **1.** CPS1 becomes readily detectable upon hepatocyte apoptotic and necrotic death. Its abundance and short serum half-life suggest that it may be a useful prognostic biomarker in acute liver injury. |
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