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CTP synthase / CTPS Antibody

Rabbit mAb
Catalog # AP92913

Product Information

Application	WB, FC
Primary Accession	P17812
Reactivity	Human, Mouse
Clonality	Monoclonal
Other Names	CTP synthase 1; CTPS; IMD24;
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	66690

Additional Information

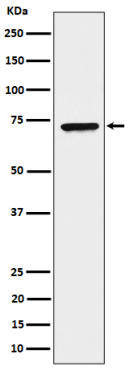
Dilution	WB 1:500~1:2000 FC 1:50
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human CTP synthase / CTPS
Description	CTP synthase (CTPS) catalyzes the ATP-dependent conversion of UTP to CTP using either L-glutamine or ammonia as the source of nitrogen. The enzyme is important in the biosynthesis nucleic acids. It has a key role in cell growth, development, and tumorigenesis.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

Protein Information

Name	CTPS1 {ECO:0000303|PubMed:16179339, ECO:0000312|HGNC:HGNC:2519}
Function	CTP synthase involved in the de novo synthesis of CTP, a precursor of DNA, RNA and phospholipids (PubMed:16179339, PubMed:17189248, PubMed:17463002, PubMed:24870241, PubMed:28459447, PubMed:34583994). Catalyzes the ATP-dependent amination of UTP to CTP with either L-glutamine or ammonia as a source of nitrogen (PubMed:16179339, PubMed:24870241, PubMed:28459447, PubMed:34583994). CTPS1 CTP synthase activity plays a crucial role in the proliferation of activated lymphocytes and immunity; additional CTP being required to meet increased demand for DNA, RNA and lipid membrane biosynthesis in proliferating lymphocytes (PubMed:24870241, PubMed:8530356). In addition to CTP synthase activity, also acts as a protein deamidase that catalyzes the side chain deamidation of specific asparagine residues of proteins to aspartate (PubMed:40240600). Acts as a negative regulator of innate immunity by mediating deamidation of 'Asn-85' of IRF3, preventing IRF3 from binding DNA (By similarity). Facilitates chromatin

	relaxation in response to DNA damage by mediating deamidation of 'Asn-76' and 'Asn-77' of histone H1, thereby promoting subsequent acetylation of histone H1 at 'Lys-75' (H1K75ac), increasing chromatin accessibility to facilitate the recruitment of DNA repair proteins (PubMed:40240600).
Cellular Location	Cytoplasm, cytosol. Nucleus. Chromosome Note=Cytoplasmic and nuclear; when active, detected in long filamentous structures named cytoophidium (PubMed:24503052, PubMed:25223282, PubMed:28459447). Enriched on chromatin in response to DNA damage (PubMed:40240600).
Tissue Location	Widely expressed at low level, except in activated T-cells where it is highly expressed.

Images



Western blot analysis of CTP synthase / CTPS expression in HeLa cell lysate.

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