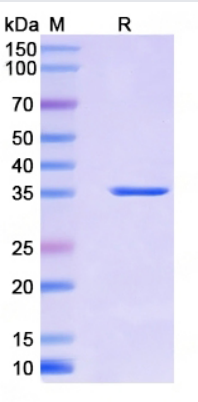
CTPS2 Human Recombinant Protein

PRODUCT OVERVIEW

Product Name	CTPS2, Recombinant Protein
Full Product Name	Recombinant Human CTPS2 Protein, N-His
Product Gene Name	CTPS2 recombinant protein
Product Synonym Names	CTPS2; CTP synthetase 2; UTP--ammonia ligase 2; CTP synthase 2
Host	E coli
Form/Format	Lyophilized from a solution in PBS pH7.4, 0.02% NLS, 1mM EDTA, 4% Trehalose, 1% Mannitol.
Purity/Purification	>90% as determined by SDS-PAGE
Preparation and Storage	Use a manual defrost freezer and avoid repeated freeze thaw cycles. Store at 2 to 8 degree C for one week. Store at -20 degree C for twelve months from the date of receipt.
Molecular Weight	65,678 Da
Sequence Positions	Met1-Lys297
Chromosome Location	Chromosome: X; NC_000023.10 (16606122..16731059, complement). Location: Xp22
OMIM	300380
3D Structure	ModBase 3D Structure for Q9NRF8
Species	Human
Reconstitution	Reconstitute in sterile water for a stock solution.
Product Categories/Family for CTPS2 recombinant protein	Recombinant Proteins
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for CTPS2 recombinant protein	SDS-PAGE (SDS), Western Blot (WB), ELISA (EIA), Immunogen
Related Product Information for CTPS2 recombinant protein	MBS1578030 is a recombinant protein targeting CTPS2. Also known as Recombinant Human CTPS2 Protein, N-His. Host: E coli.
Product References and Citations for CTPS2 recombinant protein	CTP Synthase 2 From Arabidopsis thaliana Is Required for Complete Embryo Development. PMID: 33936137 Cytosolic CTP Production Limits the Establishment of Photosynthesis in Arabidopsis. PMID: 34917117 CTP synthase 2 predicts inferior survival and mediates DNA damage response via interacting with BRCA1 in chronic lymphocytic leukemia. PMID: 36635772 Epstein-Barr Virus Induced Cytidine Metabolism Roles in Transformed B-Cell Growth and Survival. PMID: 34281398 Chloroplast quality control pathways are dependent on plastid DNA synthesis and nucleotides provided by cytidine triphosphate synthase two. PMID: 33993494
Other Notes	Small volumes of CTPS2 recombinant protein 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.



SDS-Page of CTPS2 recombinant protein
SDS PAGE for Recombinant Human CTPS2 protein

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for CTPS2. It may not necessarily be applicable to this product.

NCBI GI #	221316689
NCBI GeneID	56474
NCBI Accession #	NP_001137474.1
UniProt Primary Accession #	Q9NRF8
UniProt Secondary Accession #	Q9BRI0; Q9H809; Q9H8K9; B3KWM2
UniProt Related Accession #	Q9H6Q0; Q9NRF8
GenBank Nucleotide #	NM_001144002.1
NCBI Official Full Name	CTP synthase 2
NCBI Official Synonym Full Names	CTP synthase II
NCBI Official Symbol	CTPS2
NCBI Official Synonym Symbols	FLJ43358; MGC32997; DKFZp686C17207
UniProt Protein Name	CTP synthase 2
UniProt Synonym Protein Names	CTP synthetase 2; UTP--ammonia ligase 2
Protein Family	CTP synthase
UniProt Gene Name	CTPS2
UniProt Entry Name	PYRG2_HUMAN
NCBI Protein Information	CTP synthase 2; CTP synthetase 2; OTTHUMP00000022985; OTTHUMP00000022986; UTP-ammonia ligase; CTP synthetase type 2; UTP--ammonia ligase 2; CTP synthetase isoform; cytidine 5'-triphosphate synthetase 2
NCBI Summary for CTPS2	The protein encoded by this gene catalyzes the formation of CTP from UTP with the concomitant deamination of glutamine to glutamate. This protein is the rate-limiting enzyme in the synthesis of cytosine nucleotides, which play an important role in various metabolic processes and provide the precursors necessary for the synthesis of RNA and DNA. Cancer cells that exhibit increased cell proliferation also exhibit an increased activity of this encoded protein. Thus, this protein is an attractive target for selective chemotherapy. Three alternatively spliced transcript variants encoding the same protein have been described for this gene. [provided by RefSeq]

UniProt Comments for CTPS2	CTPS2: Catalyzes the ATP-dependent amination of UTP to CTP with either L-glutamine or ammonia as the source of nitrogen. Constitutes the rate-limiting enzyme in the synthesis of cytosine nucleotides. Belongs to the CTP synthase family. Protein type: EC 6.3.4.2; Ligase; Nucleotide Metabolism - pyrimidine Chromosomal Location of Human Ortholog: Xp22 Cellular Component: mitochondrion; cytosol Molecular Function: CTP synthase activity; ATP binding Biological Process: pyrimidine nucleotide metabolic process; nucleobase, nucleoside and nucleotide metabolic process; nucleobase, nucleoside and nucleotide interconversion; glutamine metabolic process
Research Articles on CTPS2	**1.** Low CTPS2 expression may be a rationally-based determinant of 5FU resistance.
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