

Recombinant Human CAD, His-tagged

Cat. No. CAD-10649H Lot. No. (See product label)

SPECIFICATION

Product Overview	Recombinant Human CAD protein, fused to His-tag, was expressed in E.coli and purified by Ni-sepharose.
Species	Human
Source	E.coli
ProteinLength	C-term-350a.a.
Description	The de novo synthesis of pyrimidine nucleotides is required for mammalian cells to proliferate. This gene encodes a trifunctional protein which is associated with the enzymatic activities of the first 3 enzymes in the 6-step pathway of pyrimidine biosynthesis: carbamoylphosphate synthetase (CPS II), aspartate transcarbamoylase, and dihydroorotase. This protein is regulated by the mitogen-activated protein kinase (MAPK) cascade, which indicates a direct link between activation of the MAPK cascade and de novo biosynthesis of pyrimidine nucleotides.
Storage	The protein is stored in PBS buffer at -20°C. Avoid repeated freezing and thawing cycles.
Storage Buffer	1M PBS (58mM Na ₂ HPO ₄ , 17mM NaH ₂ PO ₄ , 68mM NaCl, pH8.) added with 300mM Imidazole and 0.7% Sarcosyl, 15% glycerol.

GENE INFORMATION

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Gene Name	CAD carbamoyl-phosphate synthetase 2, aspartate transcarbamylase, and dihydroorotase [Homo sapiens]
Official Symbol	CAD
Synonyms	CAD; carbamoyl-phosphate synthetase 2, aspartate transcarbamylase, and dihydroorotase; CAD protein; CAD trifunctional protein; multifunctional protein CAD;
Gene ID	790
mRNA Refseq	NM_004341
Protein Refseq	NP_004332
MIM	114010
UniProt ID	P27708
Chromosome Location	2p22-p21
Pathway	Alanine, aspartate and glutamate metabolism, organism-specific biosystem; Alanine, aspartate and glutamate metabolism, conserved biosystem; Metabolic pathways, organism-specific biosystem; Metabolism, organism-specific biosystem; Metabolism of nucleotides, organism-specific biosystem; Pyrimidine biosynthesis, organism-specific biosystem; Pyrimidine metabolism, organism-specific biosystem;
Function	ATP binding; aspartate binding; aspartate carbamoyltransferase activity; aspartate carbamoyltransferase activity; carbamoyl-phosphate synthase (glutamine-hydrolyzing) activity; carbamoyl-phosphate synthase (glutamine-hydrolyzing) activity; dihydroorotase

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