

Cytosine deaminase Recombinant Protein | codA recombinant protein

Recombinant Escherichia coli (strain K12) Cytosine deaminase

CATALOG # AAA114845	HOST E Coli or Yeast or Baculovirus or Mammalian Cell
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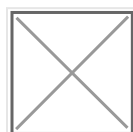
PRODUCT SYNONYMS

Cytosine deaminase; Recombinant Escherichia coli (strain K12) Cytosine deaminase; Cytosine aminohydrolase/soguanine deaminase1; codA recombinant protein

PRODUCT SPECIFICATIONS

Host	E Coli or Yeast or Baculovirus or Mammalian Cell
Purity/Purification	Greater or equal to 85% purity as determined by SDS-PAGE.
Form/Format	Lyophilized or liquid (Format to be determined during the manufacturing process)
Sequence Positions	2-427aa; Full Length of Mature Protein
Sequence	SNNALQTIIN ARLPGEEGLW QIHLQDGKIS AIDQSGVMP ITENSLDAEQ GLVIPPFFVEP HIHLDTTQTA GQPNWNQSGT LFEGIERWAE RKALLTHDDV KQRAWQTLKW QIANGIQHVR THVDVSDATL TALKAMLEVK QEVAPWIDLQ IVAFPQEGIL SYPNGEALLE EALRLGADV GAIPHFEFTR EYGVESLHKT FALAQKYDRL IDVHCDEIDD EQSRFVETVA ALAHHEGMGA RVTASHTTAM HSYNGAYTSR LFRLLKMSGI NFVANPLVNI HLQGRFDTPY KRRGITRVKE MLESGINVCF GHDDVFDWPY PLGTANMLQV LHMGLHVCQL MGYGQINDGL NLITHSART LNLQDYGIAA GNSANLIILP AENGFDALRR QVPVRYSVRG GKVIASQPA QTTVYLEQPE AIDYKR
Preparation and Storage	Store at -20 degree C, for extended storage, conserve at -20 degree C or -80 degree C.

IMAGES



SDS-PAGE

ADDITIONAL INFORMATION

Related Product Information for codA recombinant protein	Catalyzes the hydrolytic deamination of cytosine to uracil. Is involved in the pyrimidine salvage pathway, which allows the cell to utilize cytosine for pyrimidine nucleotide synthesis. Is also able to catalyze deamination of isoguanine, a mutagenic oxidation product of adenine in DNA, and of isocytosine. To a lesser extent, also catalyzes the conversion of 5-fluorocytosine (5FC) to 5-fluorouracil (5FU); this activity allows the formation of a cytotoxic chotherapeutic agent from a non-cytotoxic precursor.
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References	Characterization of the Escherichia coli codBA operon encoding cytosine permease and cytosine deaminase. Danielsen S., Kilstrup M., Barilla K., Jochimsen B., Neuhaud J. Mol. Microbiol. 6:1335-1344(1992) A first step in the development of gene therapy for colorectal carcinoma cloning, sequencing, and expression of Escherichia coli cytosine deaminase. Austin E.A., Huber B.E. Mol. Pharmacol. 43:380-387(1993) Sequence of minutes 4-25 of Escherichia coli. Chung E., Allen E., Araujo R., Aparicio A.M., Davis K., Duncan M., Federspiel N., Hyman R., Kalman S., Komp C., Kurdi O., Lew H., Lin D., Namath A., Oefner P., Roberts D., Schramm S., Davis R.W. The complete genome sequence of Escherichia coli K-12. Blattner F.R., Plunkett G. III, Bloch C.A., Perna N.T., Burland V., Riley M., Collado-Vides J., Glasner J.D., Rode C.K., Mayhew G.F., Gregor J., Davis N.W., Kirkpatrick H.A., Goeden M.A., Rose D.J., Mau B., Shao Y. Science 277:1453-1462(1997) Highly accurate genome sequences of Escherichia coli K-12 strains MG1655 and W3110. Hayashi K., Morooka N., Yamamoto Y., Fujita K., Isono K., Choi S., Ohtsubo E., Baba T., Wanner B.L., Mori H., Horiuchi T. Mol. Syst. Biol. 2:E1-E5(2006) Cytosine deaminase. The roles of divalent metal ions in catalysis. Porter D.J., Austin E.A. J. Biol. Chem. 268:24005-24011(1993) Crystallization and preliminary X-ray analysis of bacterial cytosine deaminase. Ireton G.C., Black M.E., Stoddard B.L. Acta Crystallogr. D 57:1643-1645(2001) Gene-directed enzyme prodrug therapy. Zhang J., Kale V., Chen M. AAPS J. 17:102-110(2015) The structure of Escherichia coli cytosine deaminase. Ireton G.C., McDermott G., Black M.E., Stoddard B.L. J. Mol. Biol. 315:687-697(2002) Random mutagenesis and selection of Escherichia coli cytosine deaminase for cancer gene therapy. Mahan S.D., Ireton G.C., Knoeber C., Stoddard B.L., Black M.E. Protein Eng. Des. Sel. 17:625-633(2004) Bacterial cytosine deaminase mutants created by molecular engineering show improved 5-fluorocytosine-mediated cell killing in vitro and in vivo. Fuchita M., Ardiani A., Zhao L., Serve K., Stoddard B.L., Black M.E. Cancer Res. 69:4791-4799(2009) Three-dimensional structure and catalytic mechanism of cytosine deaminase. Hall R.S., Fedorov A.A., Xu C., Fedorov E.V., Almo S.C., Raushel F.M. Biochemistry 50:5077-5085(2011) Rescue of the orphan enzyme isoguanine deaminase. Hitchcock D.S., Fedorov A.A., Fedorov E.V., Dangott L.J., Almo S.C., Raushel F.M. Biochemistry 50:5555-5557(2011) Crystal structure of cytosine deaminase from Escherichia coli complexed with two zinc atoms in the active site. Fedorov A.A., Fedorov E.V., Kamat S., Hitchcock D., Raushel F.M., Almo S.C. Submitted (MAR-2011) to the PDB data bank
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NCBI AND UNIPROT INFORMATION

NCBI GI #	16128322
NCBI GeneID	944996
NCBI Accession #	NP_414871.1
NCBI GenBank Nucleotide #	NC_000913.3
UniProt Accession #	P25524 ; Q2MC87
Molecular Weight	49.5 kDa
NCBI Official Full Name	cytosine/isoguanine deaminase
NCBI Official Symbol	codA
NCBI Official Synonym Symbols	ECK0334; JW0328
NCBI Protein Information	cytosine/isoguanine deaminase
UniProt Protein Name	Cytosine deaminase
UniProt Gene Name	codA
UniProt Synonym Gene Names	CDase
UniProt Entry Name	CODA_ECOLI

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/coda-recombinant-protein-e-coli-or-yeast-or-baculovirus-or-mammalian-cell/114845>