

Dehydrodolichyl diphosphate synthase 1 (DPS) (CPT), Recombinant Protein

Cat RP00314

Species

Arabidopsis thaliana (Mouse-ear cress)

Full Product Name

Recombinant *Arabidopsis thaliana* Dehydrodolichyl diphosphate synthase 1 (DPS)

Product Synonym Names

Recombinant Dehydrodolichyl diphosphate synthase 1 (DPS); Dehydrodolichyl diphosphate synthase 1; Dedol-PP synthase 1 EC= 2.5.1.87; Ditrans, polycis-polyprenyl diphosphate synthase ((2E,6E)-farnesyl diphosphate specific) 1

Product Gene Name

CPT recombinant protein

Product Synonym Gene Name

DPS; ACPT

Purity

Greater or equal to 85% purity as determined by SDS-PAGE. (lot specific)

Sequence

MLSLSSDSS LLSLLFLFLI PCLFITSYIG FPFVLLKLIG LIKIKAAARDN EKRDEGTYVV REDGLQRELM
PRHVAFILDG NRRWAKRAGL TTSQGHEAGA KRLIDIAELC FELGVHTVSA FAFSTENWGR DKIEIDNLMS
LIQHYNKSN IKFFHRSEVR VSVIGNKTKI PESLLKEIHE IEEATKGYKN KHLIMAVDYS GKFDIMHACK
SLVKKSEKGL IREEDVDEAL IERELLTNCS DFPSPLMIR TSGEQRISNF FLWQLAYSEL FFSPVFWPDF
DKDKLLEALA SYQRRERRFG CRV

Sequence Positions

1-303

Chromosome Location

Chromosome: 2; NC_003071.7 (9966130..9967772, complement). Location: chromosome: 2

Format

Lyophilized or liquid (Format to be determined during the manufacturing process)

Host

E Coli or Yeast or Baculovirus or Mammalian Cell

Molecular Weight

34,975 Da

Storage

Store at -20°C. For extended storage, store at -20 or -80°C.

Protein Family

Carboxypeptidase

FOR RESEARCH OR FURTHER MANUFACTURING USE ONLY

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NCBI Accession

NP_565551.1

NCBI GI

18400264

NCBI GenBank Nucleotide

NM_127905.3

NCBI GeneID

816873

NCBI Official Full Name

dehydrodolichyl diphosphate synthase 1

NCBI Official Symbol

CPT

NCBI Official Synonym Symbols

ACPT; cis-prenyltransferase; CPT

NCBI Protein Information

dehydrodolichyl diphosphate synthase 1

NCBI Summary

encodes cis-prenyltransferase

UniProt Gene Name

DPS

UniProt Synonym Gene Names

ACPT; Dedol-PP synthase 1

UniProt Protein Name

Dehydrodolichyl diphosphate synthase 1

UniProt Synonym Protein Names

Ditran, polycis-polyprenyl diphosphate synthase ((2E,6E)-farnesyl diphosphate specific) 1

UniProt Entry Name

DDPS1_ARATH

UniProt Primary Accession

O80458

UniProt Secondary Accession

Q9SEB8

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UniProt Related Accession

T52648

UniProt Comments

Function: Catalyzes cis-prenyl chain elongation to produce the polyprenyl backbone of dolichol, a glycosyl carrier-lipid required for the biosynthesis of several classes of glycoprotein. Catalytic activity: (2E,6E)-farnesyl diphosphate + n isopentenyl diphosphate = n diphosphate + ditrans, polycis-polyprenyl diphosphate (n = 10-55). Cofactor: Magnesium. Pathway: Protein modification; protein glycosylation. Subcellular location: Endoplasmic reticulum membrane; Single-pass membrane protein. Tissue specificity: Expressed in low levels in the whole plant. Preferentially expressed in roots. Sequence similarities: Belongs to the UPP synthase family. Biophysicochemical properties Kinetic parameters: $K_M=0.13 \mu\text{M}$ for farnesyl diphosphate (FPP) $K_M=3.62 \mu\text{M}$ for geranylgeranyl diphosphate (GGPP) $K_M=23 \mu\text{M}$ for isopentenyl diphosphate (IPP)

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