

PRODUCT INFORMATION



FPPS Short Isoform (human, recombinant)

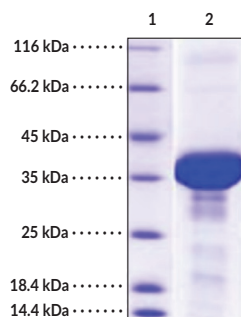
Item No. 43695

Overview and Properties

Synonyms:	Dimethylallyltransferase, Farnesyl Diphosphate Synthase, (2E,6E)-Farnesyl Diphosphate Synthase, Farnesyl Pyrophosphate Synthase, FPP Synthase
Source:	Recombinant human N-terminal His-tagged FPPS short isoform expressed in <i>E. coli</i>
Amino Acids:	67-435
Uniprot No.:	P14324
Molecular Weight:	42.4 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥85% estimated by SDS-PAGE
Supplied in:	Lyophilized from sterile PBS, pH 7.4
Protein Concentration:	<i>batch specific</i> mg/ml

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers
Lane 2: FPPS

SDS-PAGE Analysis of FPPS. This protein has a calculated molecular weight of 42.4 kDa.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

Farnesyl diphosphate synthase (FPPS) is a prenyltransferase and a member of the farnesyl pyrophosphate/geranylgeranyl pyrophosphate (FPP/GPP) synthase family.¹ It is composed of a single helical domain with a large central pocket that contains the active site.² FPPS functions as a homodimer and catalyzes the sequential condensation of dimethylallyl pyrophosphate (DMAPP) to C15 farnesyl pyrophosphate, which is necessary for the biosynthesis of isoprenoids, sterols, and prenylated proteins.^{1,3} A shorter isoform of FPPS lacks the N-terminal mitochondrial targeting peptide and localizes to the cytoplasm and, to a lesser extent, in lysosomes.¹ Increased levels of mRNA encoding FPPS in the frontal cortex are associated with higher levels of phosphorylated tau and earlier disease onset in patients with Alzheimer's disease.⁴ Cayman's FPPS Short Isoform (human, recombinant) protein consists of 368 amino acids and has a calculated molecular weight of 42.4 kDa.

References

1. Dhar, M.K., Koul, A., and Kaul, S. Farnesyl pyrophosphate synthase: A key enzyme in isoprenoid biosynthetic pathway and potential molecular target for drug development. *N. Biotechnol.* **30(2)**, 114-123 (2013).
2. Kavanagh, K.L., Guo, K., Dunford, J.E., *et al.* The molecular mechanism of nitrogen-containing bisphosphonates as antiosteoporosis drugs. *Proc. Natl. Acad. Sci. U S A* **103(20)**, 7829-7834 (2006).
3. McGuigan, C., Habib, N.A., Wasan, H.S., *et al.* A phosphoramidate ProTide (NUC-1031) and acquired and intrinsic resistance to gemcitabine. *J. Clin. Oncol.* **29(15_suppl)**, e13540 (2016).
4. Pelleieux, S., Picard, C., Lamarre-Th eroux, L., *et al.* Isoprenoids and tau pathology in sporadic Alzheimer's disease. *Neurobiol. Aging* **65**, (2018).

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