Datasheet for ABIN3114441

CYP4F3 Protein (AA 1-520) (Strep Tag)

Go to Product page

Overview

Quantity:	250 µg
Target:	CYP4F3
Protein Characteristics:	AA 1-520
Origin:	Human
Source:	Cell-free protein synthesis (CFPS)
Protein Type:	Recombinant
Purification tag / Conjugate:	This CYP4F3 protein is labelled with Strep Tag.
Application:	ELISA, SDS-PAGE (SDS), Western Blotting (WB)

Product Details

Brand:	AliCE®
Sequence:	MPQLSLSSLG LWPMAASPWL LLLLVGASWL LARILAWTYT FYDNCCRLRC FPQPPKRNWF LGHLGLIHSS EEGLLYTQSL ACTFGDMCCW WVGPWHAIVR IFHPTYIKPV LFAPAAIVPK DKVFYSFLKP WLGDGLLLSA GEKWSRHRRM LTPAFHFNIL KPYMKIFNES VNIMHAKWQL LASEGSARLD MFEHISLMTL DSLQKCVFSF DSHCQEKPSE YIAAILELSA LVTKRHQQIL LYIDFLYYLT PDGQRFRRAC RLVHDFTDAV IQERRRTLPS QGVDDFLQAK AKSKTLDFID VLLLSKDEDG KKLSDEDIRA EADTFMFEGH DTTASGLSWV LYHLAKHPEY QERCRQEVQE LLKDREPKEI EWDDLAQLPF LTMCIKESLR LHPPVPAVSR CCTQDIVLPD GRVIPKGIIC LISVFGTHHN PAVWPDPEVY DPFRFDPKNI KERSPLAFIP FSAGPRNCIG QAFAMAEMKV VLGLTLLRFR VLPDHTEPRR KPELVLRAEG GLWLRVEPLS **Sequence without tag. The proposed Strep-Tag is based on experience s with the expression system, a different complexity of the protein could make another tag necessary. In case you**

	have a special request, please contact us.
Characteristics:	Key Benefits: • Made in Germany - from design to production - by highly experienced protein experts. • Protein expressed with ALiCE® and purified in one-step affinity chromatography • These proteins are normally active (enzymatically functional) as our customers have reported (not tested by us and not guaranteed). • State-of-the-art algorithm used for plasmid design (Gene synthesis). This protein is a **made-to-order protein** and will be made for the first time for your order. Our experts in the lab try to ensure that you receive soluble protein. The big advantage of ordering our **made-to-order proteins** in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified. Expression System: • ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from Nicotiana tabacum c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications. • During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein! Concentration: • The concentration of our recombinant proteins is measured using the absorbance at 280nm. • The protein's absorbance will be measured against its specific reference buffer. • We use the Expasy's ProtParam tool to determine the absorption coefficient of each protein.
Purification:	One-step Strep-tag purification of proteins expressed in Almost Living Cell-Free Expression System (AliCE®).
Purity:	> 70-80 % as determined by SDS PAGE, Western Blot and analytical SEC (HPLC).
Grade:	custom-made

Target Details

Target:	CYP4F3
Alternative Name:	CYP4F3 (CYP4F3 Products)
Background:	Cytochrome P450 4F3 (EC 1.14.14.1) (20-hydroxyeicosatetraenoic acid synthase) (20-HETE synthase) (CYPIVF3) (Cytochrome P450-LTB-omega) (Docosahexaenoic acid omega-hydroxylase CYP4F3) (EC 1.14.14.79) (Leukotriene-B(4) 20-monooxygenase 2) (Leukotriene-B(4) omega-hydroxylase 2) (EC 1.14.14.94),FUNCTION: A cytochrome P450 monooxygenase involved in the metabolism of various endogenous substrates, including fatty acids and their oxygenated derivatives (oxylipins) (PubMed:8486631, PubMed:9675028, PubMed:11461919, PubMed:15145985, PubMed:16547005, PubMed:16820285, PubMed:18182499, PubMed:18065749, PubMed:18577768). Mechanistically, uses molecular oxygen inserting one oxygen atom into a substrate, and reducing the second into a water molecule, with two electrons provided by NADPH via cytochrome P450 reductase (CPR, NADPH-ferrihemoprotein reductase) (PubMed:9675028). May play a role in inactivation of pro-inflammatory and anti-inflammatory oxylipins during the resolution of inflammation (PubMed:8486631, PubMed:9675028, PubMed:11461919, PubMed:15145985, PubMed:15364545, PubMed:16547005, PubMed:16820285, PubMed:18182499, PubMed:18065749, PubMed:18577768). {ECO:0000269|PubMed:11461919, ECO:0000269|PubMed:15145985, ECO:0000269|PubMed:15364545, ECO:0000269|PubMed:16547005, ECO:0000269|PubMed:16820285, ECO:0000269|PubMed:18065749, ECO:0000269|PubMed:18182499, ECO:0000269|PubMed:18577768, ECO:0000269|PubMed:8486631, ECO:0000269|PubMed:9675028}., FUNCTION: [Isoform CYP4F3A]: Catalyzes predominantly the oxidation of the terminal carbon (omega-oxidation) of oxylipins in myeloid cells, displaying higher affinity for arachidonate metabolite leukotriene B4 (LTB4) (PubMed:8486631, PubMed:9675028, PubMed:11461919, PubMed:15364545). Inactivates LTB4 via three successive oxidative transformations to 20-hydroxy-LTB4, then to 20-oxo-LTB4 and to 20-carboxy-LTB4 (PubMed:9675028). Has omega-hydroxylase activity toward long-chain fatty acid epoxides with preference for 8,9-epoxy-(5Z,11Z,14Z)-eicosatrienoate (EET) and 9,10-epoxyoctadecanoate (PubMed:15145985). Omega-hydroxylates monohydroxy polyunsaturated fatty acids (PUFAs), including hydroxyeicosatetraenoates (HETEs) and hydroxyeicosapentaenoates (HEPEs), to dihydroxy compounds (PubMed:15364545, PubMed:9675028). Contributes to the degradation of saturated very long-chain fatty acids (VLCFAs) such as docosanoic acid, by catalyzing successive omega-oxidations to the corresponding dicarboxylic acid, thereby initiating chain shortening (PubMed:18182499). Has low hydroxylase activity toward PUFAs (PubMed:18577768, PubMed:11461919). {ECO:0000269|PubMed:11461919, ECO:0000269|PubMed:15145985,

Target Details

	ECO:0000269|PubMed:15364545, ECO:0000269|PubMed:18182499, ECO:0000269|PubMed:18577768, ECO:0000269|PubMed:8486631, ECO:0000269|PubMed:9675028}., FUNCTION: [Isoform CYP4F3B]: Catalyzes predominantly the oxidation of the terminal carbon (omega-oxidation) of polyunsaturated fatty acids (PUFAs) (PubMed:11461919, PubMed:16820285, PubMed:18577768). Participates in the conversion of arachidonic acid to 20-hydroxyeicosatetraenoic acid (20-HETE), a signaling molecule acting both as vasoconstrictive and natriuretic with overall effect on arterial blood pressure (PubMed:11461919, PubMed:16820285, PubMed:18577768). Has high omega-hydroxylase activity toward other PUFAs, including eicosatrienoic acid (ETA), eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) (PubMed:16820285, PubMed:18577768). Can also catalyze the oxidation of the penultimate carbon (omega-1 oxidation) of PUFAs with lower efficiency (PubMed:18577768). Contributes to the degradation of saturated very long-chain fatty acids (VLCFAs) such as docosanoic acid and hexacosanoic acid, by catalyzing successive omega-oxidations to the corresponding dicarboxylic acids, thereby initiating chain shortening (PubMed:16547005, PubMed:18182499). Omega-hydroxylates long-chain 3-hydroxy fatty acids, likely initiating the oxidative conversion to the corresponding 3-hydroxydicarboxylic fatty acids (PubMed:18065749). Has omega-hydroxylase activity toward long-chain fatty acid epoxides with preference for 8,9-epoxy-(5Z,11Z,14Z)-eicosatrienoate (EET) and 9,10-epoxyoctadecanoate (PubMed:15145985). {ECO:0000269|PubMed:11461919, ECO:0000269|PubMed:15145985, ECO:0000269|PubMed:16547005, ECO:0000269|PubMed:16820285, ECO:0000269|PubMed:18065749, ECO:0000269|PubMed:18182499, ECO:0000269|PubMed:18577768}.
Molecular Weight:	59.8 kDa
UniProt:	Q08477
Pathways:	Steroid Hormone Biosynthesis, C21-Steroid Hormone Metabolic Process, Monocarboxylic Acid Catabolic Process

Application Details

Application Notes:	In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.
Comment:	ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from Nicotiana tabacum c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational

Application Details

	modifications. During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer. Standard Storage Buffer: PBS pH 7.4, 10 % Glycerol **Might differ depending on protein.**
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	12 months