Datasheet for ABIN7553569

# CYP4F3 Protein (AA 1-520) (His tag)

Go to Product page

## Overview

| | |
|---|---|
| Quantity: | 1 mg |
| Target: | CYP4F3 |
| Protein Characteristics: | AA 1-520 |
| Origin: | Human |
| Source: | HEK-293 Cells |
| Protein Type: | Recombinant |
| Purification tag / Conjugate: | This CYP4F3 protein is labelled with His tag. |

## Product Details

| | |
|---|---|
| Purpose: | Custom-made recombinant CYP4F3 Protein expressed in mammalian cells. |
| 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 Purification-Tag is based on experiences 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.** |

## Product Details

| | |
|---|---|
| Specificity: | If you are looking for a specific domain and are interested in a partial protein or a different isoform, please contact us regarding an individual offer. |
| Characteristics: | Key Benefits:<br>• Made to order protein - from design to production - by highly experienced protein experts.<br>• Protein expressed in mammalian cells and purified in one-step affinity chromatography<br>• The optimized expression system ensures reliability for intracellular, secreted and transmembrane proteins.<br>• State-of-the-art algorithm used for plasmid design (Gene synthesis).<br><br>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.<br><br>If you are not interested in a full length protein, please contact us for individual protein fragments.<br><br>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. |
| Purity: | > 90 % as determined by Bis-Tris PAGE, anti-tag ELISA, 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, 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

## Target Details

| | |
|---|---|
| | (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: | We expect the protein to work for functional studies. As the protein has not been tested for functional studies yet we cannot offer a guarantee though. |
| Restrictions: | For Research Use only |

## Handling

| | |
|---|---|
| Format: | Liquid |
| Buffer: | The buffer composition is at the discretion of the manufacturer. |
| Handling Advice: | Avoid repeated freeze-thaw cycles. |
| Storage: | -80 °C |
| Storage Comment: | Store at -80°C. |
| Expiry Date: | 12 months |