Datasheet for ABIN3091856

CYP1B1 Protein (AA 1-543) (Strep Tag)

1 Image

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Overview

Quantity:	1 mg
Target:	CYP1B1
Protein Characteristics:	AA 1-543
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This CYP1B1 protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

Product Details

Sequence: MGTSLSPNDP WPLNPLSIQQ TTLLLLLSVL ATVHVGQRLL RQRRRQLRSA PPGPFAWPLI GNAAAVGQAA HLSFARLARR YGDVFQIRLG SCPIVVLNGE RAIHQALVQQ GSAFADRPAF ASFRVVSGGR SMAFGHYSEH WKVQRRAAHS MMRNFFTRQP RSRQVLEGHV LSEARELVAL LVRGSADGAF LDPRPLTVVA VANVMSAVCF GCRYSHDDPE FRELLSHNEE FGRTVGAGSL VDVMPWLQYF PNPVRTVFRE FEQLNRNFSN FILDKFLRHC ESLRPGAAPR DMMDAFILSA EKKAAGDSHG GGARLDLENV PATITDIFGA SQDTLSTALQ WLLLLFTRYP DVQTRVQAEL DQVVGRDRLP CMGDQPNLPY VLAFLYEAMR FSSFVPVTIP HATTANTSVL GYHIPKDTVV FVNQWSVNHD PLKWPNPENF DPARFLDKDG LINKDLTSRV MIFSVGKRRC IGEELSKMQL FLFISILAHQ CDFRANPNEP AKMNFSYGLT IKPKSFKVNV TLRESMELLD SAVQNLQAKE TCQ

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.

Product Details

Characteristics:

Key Benefits:

- Made in Germany - from design to production - by highly experienced protein experts.
- Protein expressed with ALiCE® and purified by multi-step, protein-specific process to ensure correct folding and modification.
- 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 will ensure that you receive a correctly folded 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 in several dilutions and is measured against its specific reference buffer.
- We use the Expasy's ProtParam tool to determine the absorption coefficient of each protein.

Purification:

Two step purification of proteins expressed in Almost Living Cell-Free Expression System (ALiCE®):

1. In a first purification step, the protein is purified from the cleared cell lysate using StrepTag capture material. Eluate fractions are analyzed by SDS-PAGE.
2. Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatography. Eluate fractions are analyzed by SDS-PAGE and

Product Details

	Western blot.
Purity:	>80 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.
Endotoxin Level:	Low Endotoxin less than 1 EU/mg (< 0.1 ng/mg)
Grade:	Crystallography grade

Target Details

Target:	CYP1B1
Alternative Name:	CYP1B1 (CYP1B1 Products)
Background:	Cytochrome P450 1B1 (EC 1.14.14.1) (CYPIB1) (Hydroperoxy icosatetraenoate dehydratase) (EC 4.2.1.152),FUNCTION: A cytochrome P450 monooxygenase involved in the metabolism of various endogenous substrates, including fatty acids, steroid hormones and vitamins (PubMed:20972997, PubMed:11555828, PubMed:12865317, PubMed:10681376, PubMed:15258110). 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 (NADPH--hemoprotein reductase) (PubMed:20972997, PubMed:11555828, PubMed:12865317, PubMed:10681376, PubMed:15258110). Exhibits catalytic activity for the formation of hydroxyestrogens from estrone (E1) and 17beta-estradiol (E2), namely 2- and 4-hydroxy E1 and E2. Displays a predominant hydroxylase activity toward E2 at the C-4 position (PubMed:11555828, PubMed:12865317). Metabolizes testosterone and progesterone to B or D ring hydroxylated metabolites (PubMed:10426814). May act as a major enzyme for all-trans retinoic acid biosynthesis in extrahepatic tissues. Catalyzes two successive oxidative transformation of all-trans retinol to all-trans retinal and then to the active form all-trans retinoic acid (PubMed:10681376, PubMed:15258110). Catalyzes the epoxidation of double bonds of certain PUFA. Converts arachidonic acid toward epoxyeicosatrienoic acid (EpETrE) regioisomers, 8,9-, 11,12-, and 14,15- EpETrE, that function as lipid mediators in the vascular system (PubMed:20972997). Additionally, displays dehydratase activity toward oxygenated eicosanoids hydroperoxyeicosatetraenoates (HpETEs). This activity is independent of cytochrome P450 reductase, NADPH, and O2 (PubMed:21068195). Also involved in the oxidative metabolism of xenobiotics, particularly converting polycyclic aromatic hydrocarbons and heterocyclic aryl amines procarcinogens to DNA-damaging products (PubMed:10426814). Plays an important role in retinal vascular development. Under hyperoxic O2 conditions, promotes retinal angiogenesis and capillary morphogenesis, likely by metabolizing the oxygenated products generated during the oxidative stress. Also, contributes to oxidative

Target Details

	homeostasis and ultrastructural organization and function of trabecular meshwork tissue through modulation of POSTN expression (By similarity). {ECO:0000250|UniProtKB:Q64429, ECO:0000269|PubMed:10426814, ECO:0000269|PubMed:10681376, ECO:0000269|PubMed:11555828, ECO:0000269|PubMed:12865317, ECO:0000269|PubMed:15258110, ECO:0000269|PubMed:20972997, ECO:0000269|PubMed:21068195}.
Molecular Weight:	60.8 kDa
UniProt:	Q16678
Pathways:	Steroid Hormone Biosynthesis

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 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. If you have a special request, please contact us.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C

Handling

Storage Comment:	Store at -80°C.
Expiry Date:	Unlimited (if stored properly)

Images

Image 1. „Crystallography Grade“ protein due to multi-step, protein-specific purification process