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Datasheet for ABIN3078137  
**CYP2B6 Protein (AA 1-491) (Strep Tag)**

### Overview

Quantity:	1 mg
Target:	CYP2B6
Protein Characteristics:	AA 1-491
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This CYP2B6 protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

### Product Details

Sequence: MELSVLLFLA LLTGLLLLLLV QRHPNTHDRL PPGPRPLPLL GNLLQMDDRRG LLKSFLRFRE  
KYGDVFTVHL GPRPVVMLCG VEAIREALVD KAEAFSGRGK IAMVDPFFRG YGVIFANGNR  
WKVLRRF SVT TMRDFGMGKR SVEERIQEEA QCLIEELRKS KGALMDPTFL FQSITANIIC  
SIVFGKRFHY QDQEFLKMLN LFYQTFSLIS SVFGQLFELF SGFLKYFPGA HRQVYKNLQE  
INAYIGHSVE KHRETLDPSA PKDLIDTYLL HMEKEKSN AH SEFSHQNLNL NTL SLFFAGT  
ETTSTTLRYG FLLMLKYPHV AERVYREIEQ VIGPHRPP EL HDRAKMPYTE AVIYEIQRFS  
DLLPMGVPHI VTQHTSFRGY IIPKDTEVFL ILSTALHDPH YFEKPDAFNP DHFLDANGAL  
KKTEAFIPFS LGKRICLGEG IARAELFLFF TTILQNFSMA SPVAPEDIDL TPQECGVGKI  
PPTYQIRFLP R

**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 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.

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### 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

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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)

## Target Details

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Target: CYP2B6

Alternative Name: CYP2B6 ([CYP2B6 Products](#))

Background: Cytochrome P450 2B6 (EC 1.14.13.-) (1,4-cineole 2-exo-monooxygenase) (CYP11B6) (Cytochrome P450 IIB1),FUNCTION: A cytochrome P450 monooxygenase involved in the metabolism of endocannabinoids and steroids (PubMed:21289075, PubMed:12865317). 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). Catalyzes the epoxidation of double bonds of arachidonylethanolamide (anandamide) to 8,9-, 11,12-, and 14,15- epoxyeicosatrienoic acid ethanolamides (EpETrE-EAs), potentially modulating endocannabinoid system signaling (PubMed:21289075). Hydroxylates steroid hormones, including testosterone at C-16 and estrogens at C-2 (PubMed:21289075, PubMed:12865317). Plays a role in the oxidative metabolism of xenobiotics, including plant lipids and drugs (PubMed:11695850, PubMed:22909231). Acts as a 1,4-cineole 2-exo-monooxygenase (PubMed:11695850). {ECO:0000269|PubMed:11695850, ECO:0000269|PubMed:12865317, ECO:0000269|PubMed:21289075, ECO:0000269|PubMed:22909231}, FUNCTION: Allele 2B6\*9: Has low affinity for anandamide and can only produce 11,12 EpETrE-EAs. {ECO:0000269|PubMed:21289075}.

Molecular Weight: 56.3 kDa

UniProt: [P20813](#)

## Application Details

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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

## Application Details

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Restrictions: For Research Use only

## Handling

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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

Storage Comment: Store at -80°C.

Expiry Date: Unlimited (if stored properly)