Datasheet for ABIN3088787

AKR1C4 Protein (AA 1-323) (Strep Tag)

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Overview

Quantity:	1 mg
Target:	AKR1C4
Protein Characteristics:	AA 1-323
Origin:	Human
Source:	Cell-free protein synthesis (CFPS)
Protein Type:	Recombinant
Purification tag / Conjugate:	This AKR1C4 protein is labelled with Strep Tag.
Application:	SDS-PAGE (SDS), ELISA, Western Blotting (WB)

Product Details

Brand:	AliCE®
Sequence:	MDPKYQRVEL NDGHFMPVLG FGTYAPPEVP RNRAVEVTKL AIEAGFRHID SAYLYNNEEQ VGLAIRSKIA DGSVKREDIF YTSKLWCTFF QPQMVQPALE SSLKKLQLDY VDLYLLHFPM ALKPGETPLP KDENGKVIFD TVDLSATWEV MEKCKDAGLA KSIGVSNFNC RQLEMILNKP GLKYKPVCNQ VECHPYLNQS KLLDFCKSKD IVLVAHSALG TQRHKLWVDP NSPVLLEDPV LCALAKKHKQ TPALIALRYQ LQRGVVVLAK SYNEQRIREN IQVFEFQLTS EDMKVLDGLN RNYRYVVMDF LMDHPDYPFS DEY **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:

Product Details

- 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:	AKR1C4

Target Details

Alternative Name:	AKR1C4 (AKR1C4 Products)
Background:	Aldo-keto reductase family 1 member C4 (EC 1.1.1.-) (EC 1.1.1.209) (EC 1.1.1.210) (EC 1.1.1.51) (EC 1.1.1.53) (EC 1.1.1.62) (3-alpha-hydroxysteroid dehydrogenase type I) (3-alpha-HSD1) (EC 1.1.1.357) (3alpha-hydroxysteroid 3-dehydrogenase) (Chlordecone reductase) (CDR) (EC 1.1.1.225) (Dihydrodiol dehydrogenase 4) (DD-4) (DD4) (HAKRA),FUNCTION: Cytosolic aldo-keto reductase that catalyzes the NADH and NADPH-dependent reduction of ketosteroids to hydroxysteroids. Liver specific enzyme that acts as an NAD(P)(H)-dependent 3-, 17- and 20-ketosteroid reductase on the steroid nucleus and side chain (PubMed:14672942, PubMed:10998348, PubMed:7650035, PubMed:1530633, PubMed:11158055, PubMed:10634139, PubMed:19218247). Displays the ability to catalyze both oxidation and reduction in vitro, but most probably acts as a reductase in vivo since the oxidase activity measured in vitro is inhibited by physiological concentration of NADPH (PubMed:14672942). Acts preferentially as a 3-alpha-hydroxysteroid dehydrogenase (HSD) with a subsidiary 3-beta-HSD activity (PubMed:14672942). Catalyzes efficiently the transformation of the potent androgen 5-alpha-dihydrotestosterone (5alpha-DHT or 17beta-hydroxy-5alpha-androstan-3-one) into the less active form, 5-alpha-androstan-3-alpha,17-beta-diol (3-alpha-diol) (PubMed:11158055, PubMed:10998348, PubMed:14672942). Catalyzes the reduction of estrone into 17beta-estradiol but with low efficiency (PubMed:14672942). Metabolizes a broad spectrum of natural and synthetic therapeutic steroid and plays an important role in metabolism of androgens, estrogens, progestereone and conjugated steroids (PubMed:10998348, PubMed:14672942, PubMed:19218247). Catalyzes the biotransformation of the pesticide chlordecone (kepone) to its corresponding alcohol leading to increased biliary excretion of the pesticide and concomitant reduction of its neurotoxicity since bile is the major excretory route (PubMed:2427522). {ECO:0000269|PubMed:10634139, ECO:0000269|PubMed:10998348, ECO:0000269|PubMed:11158055, ECO:0000269|PubMed:14672942, ECO:0000269|PubMed:1530633, ECO:0000269|PubMed:19218247, ECO:0000269|PubMed:2427522, ECO:0000269|PubMed:7650035}.
Molecular Weight:	37.1 kDa
UniProt:	P17516
Pathways:	Steroid Hormone Biosynthesis

Application Details

Application Notes:	In addition to the applications listed above we expect the protein to work for functional studies

Application Details

	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. 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