

Recombinant human Aldo-keto reductase 7A2/AKR7A2 protein

Catalog Number: ATGP0478

PRODUCT INFORMATION

Expression system

E.coli

Domain

1-359aa

UniProt No.

O43488

NCBI Accession No.

NP_003680

Alternative Names

Aldo-keto reductase family 7 member A2, Aflatoxin B1 aldehyde reductase member 2, AFB1 aldehyde reductase 1 (AFB1-AR 1), Aldoketoreductase 7, Succinic semialdehyde reductase (SSA reductase), AFAR, AFAR1, AKR7

PRODUCT SPECIFICATION

Molecular Weight

44 kDa (398aa) confirmed by MALDI-TOF

Concentration

0.5mg/ml (determined by Bradford assay)

Formulation

Liquid in. 20mM Tris-HCl buffer (pH 8.0) containing 1mM DTT, 20% glycerol

Purity

> 90% by SDS-PAGE

Biological Activity

Specific activity is > 300pmol/min/ug, and is defined as the amount of enzyme that catalyze the reduction 1.0pmole of 1,2-Naphthoquinone presence of NADPH per minute at pH 7.0 at 25C.

Tag

His-Tag

Application

SDS-PAGE, Enzyme Activity

Storage Condition

Can be stored at +2C to +8C for 1 week. For long term storage, aliquot and store at -20C to -80C. Avoid repeated freezing and thawing cycles.

BACKGROUND

Description

Aldo-keto reductases, such as AKR7A2, are involved in the detoxification of aldehydes and ketones. This protein can reduce the dialdehyde protein-binding form of aflatoxin B1 (AFB1) to the nonbinding AFB1 dialcohol. It may

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be involved in protection of liver against the toxic and carcinogenic effects of AFB1, a potent hepatocarcinogen. Also, it has been proposed previously to catalyze the NADPH-dependent reduction of succinic semialdehyde (SSA) to gamma-Hydroxybutyrate in human brain. Recombinant AKR7A2 protein was expressed in *E. coli* and purified by using conventional chromatography techniques.

Amino acid Sequence

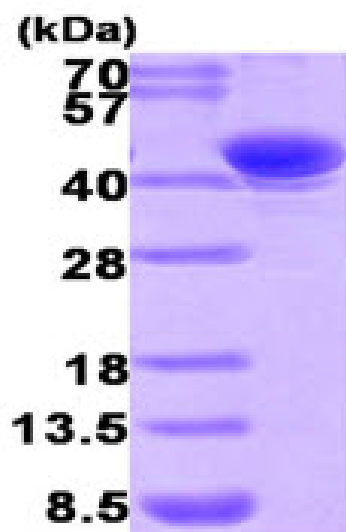
MRGSHHHHHH GMASMTGGGQ MGRDLYDDDD KDRWGSELEM LSAASRVVSR AAVHCALRSP PPEARALAMS
RPPPPRVASV LGTMEMGRRM DAPASAAAVR AFLERGHTEL DTAFMYS DGQ SETILGGLGL GLGGGDCRVK IATKANPWDG
KSLKPDSVRS QLETSLKRLQ CPQVDLFYLH APDHGTPVEE TLHACQRLHQ EGKFVELGLS NYASWEVAEI CTLCKSNGWI
LPTVYQGMYN ATTRQVETEL FPCLRHFLR FYAYNPLAGG LLTGKYKYED KDGKQPVGRF FGNSWAETYS NRFWKEHHFE
AIALVEKALQ AAYGASAPSV TSAALRWMYH HSQIQGAHGD AVILGMSSLE QLEQNLAATE EGPLEPAVVD AFNQAWHLVA
HECPNYFR

General References

Bodreddigari S., et al. (2008) *Chem Res Toxicol.* 21(5):1134-42.
Malaspina P., et al. (2009) *Hum Genomics.* 3(2):106-20.

DATA

SDS-PAGE



3 μ g by SDS-PAGE under reducing condition and visualized by coomassie blue stain.

15% SDS-PAGE (3 μ g)