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# Recombinant human Aldo-keto reductase 7A2/AKR7A2 protein

Catalog Number: ATGP0478

#### PRODUCT INFORMATION

# **Expression system**

E.coli

#### **Domain**

1-359aa

#### **UniProt No.**

043488

#### **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 > 1000pmol/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**

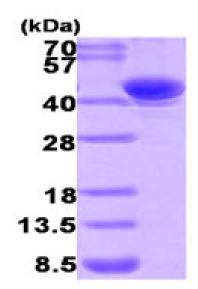
MRGSHHHHHH GMASMTGGQQ MGRDLYDDDD KDRWGSELEM LSAASRVVSR AAVHCALRSP PPEARALAMS RPPPPRVASV LGTMEMGRRM DAPASAAAVR AFLERGHTEL DTAFMYSDGQ SETILGGLGL GLGGGDCRVK IATKANPWDG KSLKPDSVRS QLETSLKRLQ CPQVDLFYLH APDHGTPVEE TLHACQRLHQ EGKFVELGLS NYASWEVAEI CTLCKSNGWI LPTVYQGMYN ATTRQVETEL FPCLRHFGLR FYAYNPLAGG LLTGKYKYED KDGKQPVGRF FGNSWAETYR NRFWKEHHFE AIALVEKALQ AAYGASAPSV TSAALRWMYH HSQLQGAHGD 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**





coomassie blue stain.

3ug by SDS-PAGE under reducing condition and visualized by

15% SDS-PAGE (3ug)