

Human AKR1A1 Protein (His Tag)

Catalog Number: 11607-H07E



Sino Biological Inc.

Biological Solution Specialist

General Information

Gene Name Synonym:

ALDR1; ALR; ARM; DD3; HEL-S-6; 2610201A18Rik; Akrla4

Protein Construction:

A DNA sequence encoding the human AKR1A1 (P14550) (Met 1-Tyr 325) was expressed, with a polyhistidine tag at the N-terminus.

Source: Human

Expression Host: E. coli

QC Testing

Purity: > 90 % as determined by SDS-PAGE

Endotoxin:

Please contact us for more information.

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Met

Molecular Mass:

The recombinant human AKR1A1 consisting of 341 amino acids and migrates as an approximately 39 kDa band in SDS-PAGE under reducing conditions as predicted.

Formulation:

Lyophilized from sterile PBS, pH 7.5

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

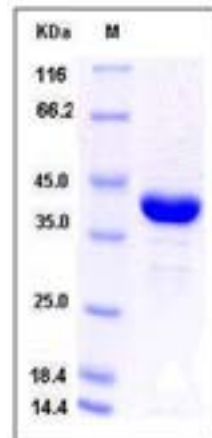
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Aldehyde reductase (AKR1A1) is a member of the aldo-keto reductase superfamily, which consists of more than 40 known enzymes and proteins that includes variety of monomeric NADPH-dependent oxidoreductases, such as aldehyde reductase. Aldehyde reductase has wide substrate specificities for carbonyl compounds. These enzymes are implicated in the development of diabetic complications by catalyzing the reduction of glucose to sorbitol. Aldehyde reductase possess a structure with a beta-alpha-beta fold which contains a novel NADP-binding motif. The binding site is located in a large, deep, elliptical pocket in the C-terminal end of the beta sheet, the substrate being bound in an extended conformation. This binding is more similar to FAD- than to NAD(P)-binding oxidoreductases. AKR1A1 is involved in the reduction of biogenic and xenobiotic aldehydes and is present in virtually every tissue.

References

1. Bohren KM, et al. (1989) The aldo-keto reductase superfamily. cDNAs and deduced amino acid sequences of human aldehyde and aldose reductases. J Biol Chem. 264 (16): 9547-51.
2. Fujii J, et al. (1999) The structural organization of the human aldehyde reductase gene, AKR1A1, and mapping to chromosome. Cytogenetics and Cell Genetics . 84 (3-4): 33-2.

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