

Human AKR1B1 Protein (His Tag)

Catalog Number: 11294-H07E



Sino Biological Inc.

Biological Solution Specialist

General Information

Gene Name Synonym:

ADR; ALDR1; ALR2; AR; MGC1804

Protein Construction:

A DNA sequence encoding the human AKR1B1 (P15121) (Met 1-Phe 316) 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 AKR1B1 comprises 332 amino acids and has a predicted molecular mass of 37.9 kDa. It migrates as an approximately 36 kDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile PBS, 20% glycerol, 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:

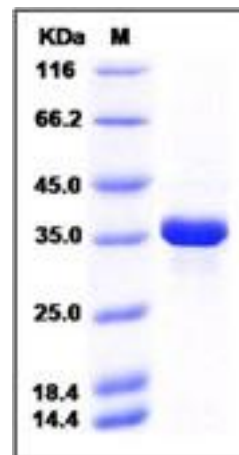
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Aldose reductase (AKR1B1) belongs to the aldo/keto reductase superfamily. AKR1B1 is a NADPH-dependent aldo-keto reductase best known as the rate-limiting enzyme of the polyol pathway. Expression of AKR1B1 was the highest in lens and retina. It is the first enzyme in the polyol pathway through which glucose is converted to sorbitol which is important for the function of various organs in the body, and has been implicated in the etiology of diabetic complications. AKR1B1 is quite abundant in the collecting tubule cells and thought to provide protection against hypertonic environment. Some human tissues contain AKR1B1 as well as AKR1B10, a closely related member of the aldo-keto reductase superfamily.

References

- 1.Huang SP, *et al.* (2010) Aldo-Keto Reductases in the Eye. *Journal of Ophthalmology*. 326 (3): 625-36.
- 2.Aida K, *et al.* (2000) Disruption of Aldose Reductase Gene (*Akr1b1*) Causes Defect in Urinary Concentrating Ability and Divalent Cation Homeostasis. *Biochemical and Biophysical Research Communications*.277 (2): 281-6.
- 3.Liao CS, *et al.* (2009) Regulation of AKR1B1 by thyroid hormone and its receptors. *Molecular and Cellular Endocrinology*. 307 (1-2): 109-17.

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