
Product Data Sheet

Product Name: AKR1C1 Human

Cat. No.: GP21377

Batch No.: 1

Product Data

Purity	>98%	Source	Escherichia Coli.
Physical Appearance	solid	Shipping Condition	Shipped with Ice Packs.
Synonyms	DDH1; DDH; HAKRC; 20-alpha-HSD; DD1/DD2; HBAB; C9; DD1; H-37; MBAB; MGC8954; 2-ALPHA-HSD; AKR1C1; Aldo-keto reductase family 1 member C1; 20-alpha-hydroxysteroid dehydrogenase; Trans-1;2-dihydrobenzene-1;2-diol dehydrogenase; Indanol dehydrogenase; Dihydrodiol dehydrogenase 1/2; Chlordecone reductase homolog HAKRC; High-affinity hepatic bile acid-binding protein.		
Amino Acid Sequence	MGSSHHHHHH SSGLVPRGSH MDSKYQCVKL NDGHFMPVLG FGTYAPAEVP KSKALEATKL AIEAGFRHID SAHLYNNEEQ VGLAIRSKIA DGSVKREDIF YTSKLWCNSH RPELVRPALE RSLKNLQLDY VDLYLIHFPV SVKPGEEVIP KDENGKILFD TVDLCATWEA VEKCKDAGLA KSIGVSNFNR RQLEMILNKP GLKYKPCVQ VECPPYFNQR KLLDFCKSKD IVLVAYSALG SHREEPWVDP NSPVLLEDPV LCALAKKHKR TPALIALRYQ LQRGVVVLAK SYNEQRIRQN VQVFEFQLTS EEMKAIDGLN RNVRYLTLDI FAGPPNYPPS DEY.		
Formulation	The AKR1C1 protein solution (0.5mg/ml) contains 20mM Tris-HCl pH-8, 1mM DTT and 20% glycerol.		

Introduction

AKR1C1 transfers progesterone to its inactive state or in other words catalyzes the reaction of 20-alpha-hydroxy progesterone (20-alpha-OHP). In the liver and intestine. AKR1C1 transfers bile and monitors the intrahepatic bile acid concentration though it has a low bile-binding ability. AKR1C1 participates in myelin formation. AKR1C1 is part of the aldo/keto reductase superfamily, which has over 40 known enzymes which catalyze the conversion of aldehydes and ketones to their corresponding alcohols by utilizing NADH and/or NADPH as cofactors thus display overlapping but distinct substrate specificity.

Caution: Product has not been fully validated for medical applications. For research use only.

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Biological Activity

Specific activity is > 500 pmol/min/ug, and is defined as the amount of enzyme that catalyze the oxidation of 1.0 pmole 1-Acenaphthenol in the presence of NADP per minute at pH 8.8 at 25°C .

Stability

Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.

Background

AKR1C1 Human Recombinant fused to a 20 amino acid His Tag at N-terminus produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 343 amino acids (1-323 a.a.) and having a molecular mass of 38.9 kDa. The AKR1C1 is purified by proprietary chromatographic techniques.

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