

AKR1C2 Protein, Human (His)

Cat. No.:	HY-P75520
Synonyms:	AKR-1C2; Aldo-keto reductase family 1 member C2; DD-2; AKR1C2
Species:	Human
Source:	E. coli
Accession:	P52895 (M1-Y323)
Gene ID:	1646
Molecular Weight:	Approximately 38 kDa

PROPERTIES

AA Sequence	M D S K Y Q C V K L N D G H F M P V L G F G T Y A P A E V P K S K A L E A V K L A I E A G F H H I D S A H V Y N N E E Q V G L A I R S K I A D G S V K R E D I F Y T S K L W S N S H R P E L V R P A L E R S L K N L Q L D Y V D L Y L I H F P V S V K P G E E V I P K D E N G K I L F D T V D L C A T W E A M E K C K D A G L A K S I G V S N F N H R L L E M I L N K P G L K Y K P V C N Q V E C H P Y F N Q R K L L D F C K S K D I V L V A Y S A L G S H R E E P W V D P N S P V L L E D P V L C A L A K K H K R T P A L I A L R Y Q L Q R G V V V L A K S Y N E Q R I R Q N V Q V F E F Q L T S E E M K A I D G L N R N V R Y L T L D I F A G P P N Y P F S D E Y
Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of 50 mM Tris-HCL, 300 mM NaCl, pH 7.4.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	AKR1C2 Protein is a cytosolic aldo-keto reductase that plays a pivotal role in catalyzing the NADH and NADPH-dependent
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reduction of ketosteroids to hydroxysteroids. This enzyme exhibits a likely reductase function in vivo, as evidenced by the inhibition of its oxidase activity in vitro by physiological concentrations of NADPH. AKR1C2 displays a broad positional specificity, acting on positions 3, 17, and 20 of steroids, thereby regulating the metabolism of hormones such as estrogens and androgens. Collaborating with 5-alpha/5-beta-steroid reductases, it contributes to the conversion of steroid hormones into 3-alpha/5-alpha and 3-alpha/5-beta-tetrahydrosteroids. Furthermore, AKR1C2 catalyzes the inactivation of the potent androgen 5-alpha-dihydrotestosterone (5-alpha-DHT) to 5-alpha-androstane-3-alpha,17-beta-diol (3-alpha-diol). Specifically, it is capable of producing 17beta-hydroxy-5alpha-androstan-3-one/5alphaDHT and may also reduce conjugated steroids, such as 5alpha-dihydrotestosterone sulfate. Additionally, the protein exhibits an affinity for bile acids, further emphasizing its involvement in diverse metabolic pathways.

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

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