

## AKR1D1, human recombinant

<b>CATALOG #:</b>	7358-100	100 µg
<b>ALTERNATE NAMES:</b>	Aldo-keto reductase family 1, member D1, 3o5bred, CBAS2, SRD5B1	
<b>SOURCE:</b>	E. coli	
<b>PURITY:</b>	> 90% by SDS-PAGE	
<b>FORM:</b>	Liquid	

**FORMULATION:** 0.5 mg/ml in 20 mM Tris-HCl buffer (pH 8.0) containing 1 mM DTT, 100 mM NaCl and 20% glycerol.

**MOL. WEIGHT:** 39.5 kDa (346 aa, 1-326 aa + His Tag), confirmed by MALDI-TOF.

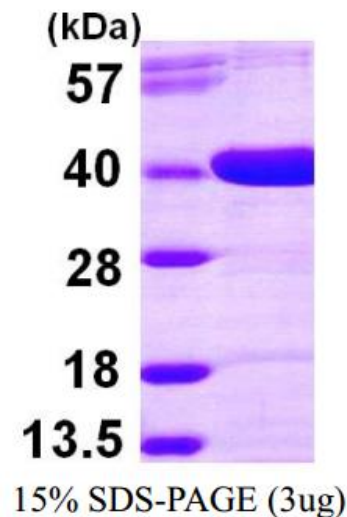
**STORAGE CONDITIONS:** Can be stored at 4°C short term (1-2 weeks). For long term storage, aliquot and store at -20°C or -70°C. Avoid repeated freezing and thawing cycles.

**DESCRIPTION:** Aldo-keto reductase family 1, member D1, also known as AKR1D1, is a member of the AKR superfamily. The AKR family of proteins is soluble NADPH oxidoreductases. They play important roles in the metabolism of drugs, carcinogens and reactive aldehydes. AKR1D1 is responsible for the catalysis of the 5-beta-reduction of bile acid intermediates and steroid hormones which carry a delta (4)-3-one structure. AKR1D1 is highly expressed in liver, colon and testis. Deficiency of this enzyme may contribute to hepatic dysfunction. Recombinant human AKR1D1 protein, fused to His-tag at N-terminus, was expressed in E.coli and purified by using conventional chromatography techniques.

**AMINO ACID SEQUENCE:** MGSSHHHHH SSSLVPRGSH MDLSAASHRI  
PLSDNSIPI IGLGTYSEPK STPKGACATS VKVAIDTGYR HIDGAYIQN EHEVGEAIRE  
KIAEGKVRRE DIFYCGKLWA TNHVPVMVRP TLERTLRVLQ LDYVDLYIIE  
VPMFAKPGDE IYPRDENGKW LYHKSNLCAE WEAMEACKDA GLVKSLGVSN  
FNRRQLELIL NKPGLKHKPV SNQVECHPYF TQPKLLKFCQ QHDIVITAYS  
PLGTSRNPIW VNVSSPPLLK DALLNSLGKR YNKTAQIVL RFNIQRGVVV IPKSFNLERI  
KENFQIFDFS LTEEEMKDIE ALNKNVRFVE LLMWRDHPEY PFHDEY

### ACTIVITY ASSAY:

1. Prepare a 1 ml reaction mix into a suitable container. The final concentrations are 0.1 M sodium phosphate (pH 7.0), 10 mM DL-glyceraldehyde and 0.3 mM NADPH.
2. Add 50 µl of recombinant AKR1D1 protein solution with various concentrations (1 µg, 2 µg) in 750 µl reaction buffer.
3. Mix by inversion and incubate at 25°C for 2.5 minutes.
4. Add 200 µl of 50 mM DL-glyceraldehyde as a substrate and immediately mix by inversion.
5. Record the decrease in A340 nm for 3 minutes.



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### RELATED PRODUCTS:

- Human Recombinant AKR1C1 (Cat # 6336-100)
- Human Recombinant AKR1C3 (Cat # 6337-100)
- Human Recombinant AKR1C4 (Cat # 6338-100)
- Human Recombinant AKR1B10 (Cat # 6339-100)
- AKR1C3 Inhibitor I (Cat # 2403-5, -25)
- AKR1C3 Inhibitor II (Cat # 2404-5, -25)
- AKR1C3 Inhibitor III (Cat # 2424-5, -25)

**FOR RESEARCH USE ONLY! Not to be used in humans.**