

AKR1B10, 1-316 aa, Human, Recombinant, *E.coli*

Cat. No. IBATGP0314

Full name: Aldo-keto reductase family 1, member B10

NCBI Accession No.: NP_064695

Synonyms : AKR1B11, AKR1B12, ALDRLn, ARL-1, ARL1, HIS, HSI

Description: AKR1B10, also known as Aldo-keto reductase family 1, member B10, AKR1B10 is a monomeric protein that efficiently catalyzes the reduction of aromatic and aliphatic aldehydes and ketones. AKR1B10 is ubiquitously expressed in many human tissues but is highly expressed in small intestine, colon and adrenal gland. This protein is pathogenically involved in diabetic complications and has been reported that AKR1B10 is overexpressed in human tumors, such as liver, breast, and lung cancer, and may play a critical role in the development and progression of cancer. Recombinant human AKR1B10 protein was expressed in *E.coli* and purified by using conventional chromatography.

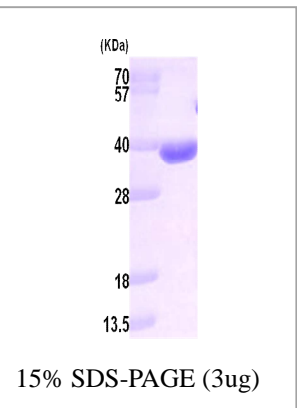
Form: Liquid. In 20mM Tris-HCl buffer (pH8.0) containing 10% glycerol

Molecular Weight: 36 kDa (316aa), confirmed by MALDI-TOF

Purity: > 95% by SDS - PAGE

Concentration: 1 mg/ml (determined by Bradford assay)

Biological activity: Specific activity : approximately 0.32 - 0.4 units/mg.
Enzymatic activity was confirmed by measuring the amount of enzyme catalyzing the oxidation of 1 micromole NADPH per minute at 25°C. Specific activity was expressed as units/mg protein.



Activity Assay

1. Prepare a 1.mll reaction mix into a suitable container :
The final concentrations are 0.1M sodium phosphate (pH7.0), 10mM DL-glyceraldehyde, 0.3mM NADPH.
2. Add 50 ul of recombinant AKR1B10 solution with various concentrations (2.5ug, 5ug, 10ug) in 750 ul reaction buffer.
3. Mix by inversion and Incubate at 25C for 2.5 minutes.
4. Add 200ul of 50 mM DL-glyceraldehyde as a substrate and immediately mix by inversion.
5. Record the decrease at A340nm for 3 minutes.

Sequences of amino acids:

MATFVELSTK AKMPIVGLGT WKSPLGKVK E AVKVAIDAGY RHIDCAYVYQ NEHEVGEAIQ EKIQEKAVKR EDLFIVSKLW PTFFERPLVR
KAFEKTLKDL KLSYLDVYLI HWPQGFKSGD DLFPKDDKGN AIGGKATFLD AWEAMEELVD EGLVKALGVS NFSHFQIEKL LNKPGLKYP
VTNQVECHPY LTQEKLIQYC HSKGITVTAY SPLGSPDRPW AKPEDPSLLE DPKIKEIAAK HKKTAAQVLI RFHIQRNVIV IPKSVTPARI
VENIQVDFDK LSDEEMATIL SFNRNWRACN VLQSSHLEDY PFDAEY

General references:

- Yabe D., *et al.* (1997) *J Biol Chem.* 272(29):18232-9.
Vorum H., *et al.* (1998) *Biochim Biophys Acta.* 1386(1):121-31.

Storage: 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.

For research use only. This product is not intended or approved for human, diagnostics or veterinary use.



Manufactured for:

Immuno-Biological Laboratories, Inc. (IBL-America)
8201 Central Ave. NE, Suite P, Minneapolis, Minnesota 55432, USA
Phone: (888) 523-1246 Fax.: (763) 780-2988
Email: info@ibl-america.com Web: www.ibl-america.com