

## Aldose Reductase Active Protein | AKR1B1 active protein

Recombinant Human Aldose Reductase

|                              |                       |
|------------------------------|-----------------------|
| CATALOG #<br><b>AAA38715</b> | HOST<br><b>E Coli</b> |
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### PRODUCT SYNONYMS

Aldose Reductase; Recombinant Human Aldose Reductase; AKR1B1 Human; Aldose Reductase Human Recombinant; Aldehyde Reductase; EC 1.1.1.21; ALR2; ALDR1; MGC1804; Aldo-keto reductase family1 member B1; AKR1B1; AR; ADR; AKR1B1 active protein

### PRODUCT SPECIFICATIONS

|                         |                                                                                                                                                                                                                                                                                                                                                          |
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| Host                    | E Coli                                                                                                                                                                                                                                                                                                                                                   |
| Purity/Purification     | Greater than 95.0% as determined by SDS-PAGE.                                                                                                                                                                                                                                                                                                            |
| Form/Format             | The 1mg/ml protein solution contains 20mM Tris-HCl buffer pH 8, 10% glycerol, and 1mM DTT. Sterile filtered colorless solution.                                                                                                                                                                                                                          |
| Sequence                | MASRLLLNNG AKMPILGLGT WKSPPGQVTE AVKVAIDVG Y RHIDCAHVYQ NENEVGVAIQ EKLREQVVKR EELFIVSKLW CTYHEKGLVK GACQKTLSDL KLDYLDLYI HWPTGFKPGK EFFPLDESGN VVPSDTNILD TWAAMEELVD EGLVKAIGIS NFNHLQVEMI LNKPGKLYKP AVNQIECHPY LTQEKLQYC QSKGIVVTAY SPLGSPDRPW AKPEDPSLLE DPRIKAIKAA HNKTTAQVLI RFPMQRNLVV IPKSVTPERI AENFKVDFE LSSQDMTLL SYNRNWRVCA LLSCTSHKDY PFHEEF |
| Sequence Length         | 316                                                                                                                                                                                                                                                                                                                                                      |
| Biological Activity     | Specific activity : approximately 0.2 - 0.9 units/mg. Enzymatic activity was confirmed by measuring the amount of enzyme catalyzing the oxidation of 1 micromole NADPH per minute at 25 degree C. Specific activity was expressed as units/mg protein.                                                                                                   |
| Preparation and Storage | Store at 4 degree C if entire vial will be used within 2-4 weeks. Store, frozen at -20 degree 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.                                                                                                       |

### ADDITIONAL INFORMATION

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| Related Product Information for AKR1B1 active protein | <p><b>Description:</b> AKR1B1 Human Recombinant amino produced in E Coli is a single, non-glycosylated polypeptide chain containing 316 amino acids having a molecular mass of 35.8 kDa. The AKR1B1 is purified by proprietary chromatographic techniques.</p> <p><b>Introduction:</b> AKR1B1 is part of the aldo/keto reductase superfamily, which consists of more than 40 known enzymes and proteins. AKR1B1 catalyzes the reduction several aldehydes, including the aldehyde form of glucose, and thus involved in the development of diabetic complications by catalyzing the reduction of glucose to sorbitol. AKR1B1 catalyzes the NADPH-dependent reduction of a wide variety of carbonyl-containing compounds to their corresponding alcohols. Transgenic mice over expressing human aldose reductase show that AKR1B1 is a key player in ischemic injury and impairment of functional and metabolic recovery after ischemia. Aldose Reductase is an obligatory mediator of TNF-alpha signaling leading to an increase in the expression of adhesion molecules and increased binding of monocytes to the endothelium. AKR1B1 is a critical regulator of TNF-alpha-induced apoptotic signaling in endothelial cells.</p> |
| Product Categories/Family for AKR1B1 active protein   | Enzymes; Reductase                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

### NCBI AND UNIPROT INFORMATION

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| NCBI GI # | 4502049 |
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|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NCBI GeneID                      | <a href="#">231</a>                                                                                                                                                          |
| NCBI Accession #                 | <a href="#">NP_001619.1</a>                                                                                                                                                  |
| NCBI GenBank Nucleotide #        | <a href="#">NM_001628.2</a>                                                                                                                                                  |
| UniProt Accession #              | <a href="#">P15121</a> ; <a href="#">Q5U031</a> ; <a href="#">Q6FGA4</a> ; <a href="#">Q6ICP2</a> ; <a href="#">Q9BS21</a> ; <a href="#">Q9UCI9</a> ; <a href="#">B2R8N3</a> |
| Molecular Weight                 | 35,853 Da                                                                                                                                                                    |
| NCBI Official Full Name          | aldose reductase                                                                                                                                                             |
| NCBI Official Synonym Full Names | aldo-keto reductase family 1, member B1 (aldose reductase)                                                                                                                   |
| NCBI Official Symbol             | AKR1B1                                                                                                                                                                       |
| NCBI Official Synonym Symbols    | AR; ADR; ALR2; ALDR1                                                                                                                                                         |
| NCBI Protein Information         | aldose reductase; Lii5-2 CTCL tumor antigen; aldehyde reductase 1; aldo-keto reductase family 1 member B1; low Km aldose reductase                                           |
| UniProt Protein Name             | Aldose reductase                                                                                                                                                             |
| UniProt Gene Name                | <b>AKR1B1</b>                                                                                                                                                                |
| UniProt Synonym Gene Names       | ALDR1; AR                                                                                                                                                                    |
| UniProt Entry Name               | ALDR_HUMAN                                                                                                                                                                   |

**For Research Use Only.** Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://www.aaabiotech.com/e-coli-akr1b1-active-protein/aldose-reductase/38715>