

Anti-AKR1B1 Antibody Picoband®

Catalog Number: PB10035

About AKR1B1

Aldo-keto reductase family 1, member B1 (aldose reductase), also known as AR, is an enzyme that in humans is encoded by the AKR1B1 gene. This gene encodes a member of the aldo/keto reductase superfamily, which consists of more than 40 known enzymes and proteins. This member catalyzes the reduction of a number of aldehydes, including the aldehyde form of glucose, and is thereby implicated in the development of diabetic complications by catalyzing the reduction of glucose to sorbitol.

Overview

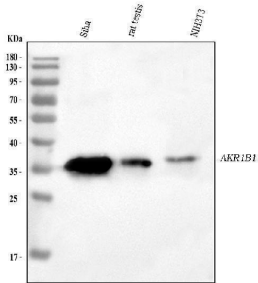
Product Name	Anti-AKR1B1 Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-AKR1B1 Antibody Picoband® catalog # PB10035. Tested in Flow Cytometry, IHC, WB applications. This antibody reacts with Human, Mouse, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	Flow Cytometry, IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains antibody formulated with stabilizing components, 0.9 mg NaCl, 0.2 mg Na ₂ HPO ₄ , and 0.05 mg NaN ₃ . *This antibody is supplied in a stabilized formulation. Compatibility with conjugation reactions depends on the chemistry of the conjugation method used. For conjugation methods that are not compatible with the stabilizing components present in this formulation, a carrier-free antibody format is required.
Storage Instructions	Store at -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	P15121

Technical Details

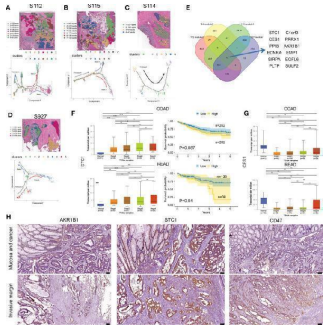
Immunogen	E. coli-derived human AKR1B1 recombinant protein (Position: L228-F316). Human AKR1B1 shares 87.5% amino acid (aa) sequence identity with both mouse and rat AKR1B1.
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P).
Cross Reactivity	No cross-reactivity with other proteins

Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.1-0.5ug/ml, Human, Mouse, Rat Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml, Human, Rat Flow Cytometry (Fixed), 1-3ug/1x10 ⁶ cells, Human

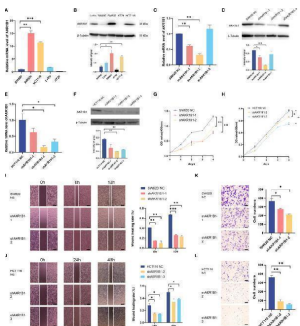
Anti-AKR1B1 Antibody Picoband® (PB10035) Images



Western blot analysis of AKR1B1 using anti-AKR1B1 antibody (PB10035). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: human SiHa whole cell lysates, Lane 2: rat testis tissue lysates, Lane 3: mouse NIH/3T3 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-AKR1B1 antigen affinity purified polyclonal antibody (Catalog # PB10035) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for AKR1B1 at approximately 36 kDa. The expected band size for AKR1B1 is at 36 kDa.

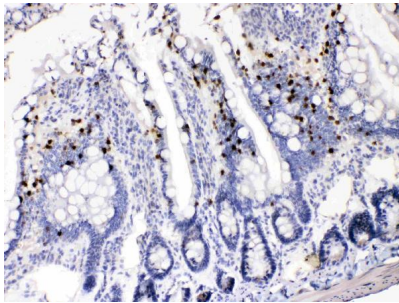


Cell differentiation trajectories in CRC obtained by pseudotime analysis. (A-D) tSNE map shows the results of the dimensionality reduction and clustering analysis of S112 (A) , S115 (B) , S114 (C) , and 927 (D) (up). Results of pseudotime cell trajectory in S112 (A) , S115 (B) , S114 (C) , and S927 (D) (down). (E) Twelve genes were screened by invasive modules. (F) The relationship of STC1 expression level and cancer stage/progression-free survival in colon cancer (up) and rectal cancer (down) from TCGA database. (G) The relationship of CES1 expression level and cancer stage in colon cancer (up) and rectal cancer (down) from TCGA database. (H) Immunohistochemical staining showed the expression of AKR1B1(left panel), STC1(middle panel), and CD47(right panel) in Mucosa and cancer(up) and Invasive margin(down) (n=45). The scale bars on the lower right are 100 μ m. *P < 0.05, **P < 0.01 and ***P < 0.001. NS, not significant difference. Index in PubMed under a CC BY license. PMID: 36816947

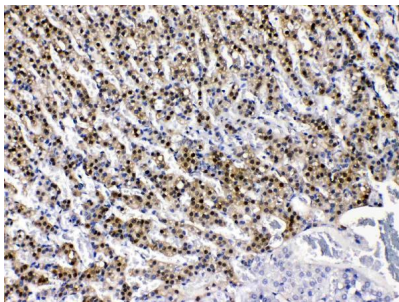


Knockdown of AKR1B1 inhibited cell proliferation, migration, and invasion. (A, B) The transcriptional level (A) and protein level (B) of AKR1B1 were detected in multiple colorectal cancer cell lines (SW480, SW620, HCT116, LoVo, and HT29) using RT-PCR and WB. (C, D) The transcriptional level (C) and protein level (D) of AKR1B1 were detected in the control and knockdown groups of SW620 using RT-PCR and WB. (E, F) The transcriptional level (E) and protein level (F) of AKR1B1 were detected in the control and knockdown groups of HCT116 using RT-PCR and WB. (G, H) Cell proliferation of SW620 (G) and HCT116 (H) in control and knockdown groups was detected using CCK8 assay. (I, J) Cell migration of SW620 (I) and HCT116 (J) in control and knockdown groups

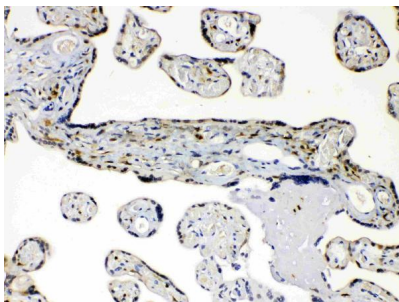
was detected using wound healing assay. (K, L) Cell invasion of SW620 (K) and HCT116 (L) in control and knockdown groups was detected using transwell assay. The scale bars on the lower right in (I-L) are 200 μ m. *P < 0.05, **P < 0.01 and ***P < 0.001. NS, not significant difference. N=3. Index in PubMed under a CC BY license. PMID: 36816947



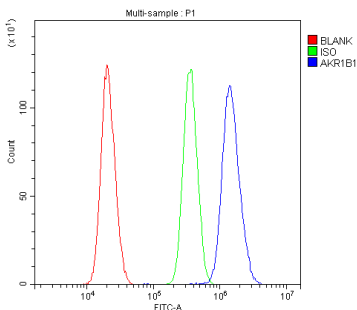
IHC analysis of AKR1B1 using anti-AKR1B1 antibody (PB10035). AKR1B1 was detected in paraffin-embedded section of rat intestine tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 μ g/ml rabbit anti-AKR1B1 Antibody (PB10035) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.



IHC analysis of AKR1B1 using anti-AKR1B1 antibody (PB10035). AKR1B1 was detected in paraffin-embedded section of rat adrenal gland tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 μ g/ml rabbit anti-AKR1B1 Antibody (PB10035) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.



IHC analysis of AKR1B1 using anti-AKR1B1 antibody (PB10035). AKR1B1 was detected in paraffin-embedded section of human placenta tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 μ g/ml rabbit anti-AKR1B1 Antibody (PB10035) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.



Flow Cytometry analysis of U2OS cells using anti-AKR1B1 antibody (PB10035). Overlay histogram showing U2OS cells stained with PB10035 (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-AKR1B1 Antibody (PB10035, 1 μ g/1x10⁶ cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10 μ g/1x10⁶ cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody

(Green line) was rabbit IgG (1ug/1x10⁶) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

Submit a product review to Biocompare.com

Submit a review of this product to Biocompare.com to receive a \$20 Amazon.com giftcard! Your reviews help your fellow scientists make the right decisions. Thank you for your contribution.



Anti-AKR1B1 Antibody

For Research Use Only. Not for use in diagnostic procedures.