Anti-AKR1C1 / AKR1C2 Antibody [JE33-84]

HA722694

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse
Applications:	WB, IF-Cell, FC
Molecular Wt:	Predicted band size: 37 kDa
Clone number:	JE33-84

Description: Aldo-keto reductase family 1 (AKR1) is a family of aldo-keto reductase enzymes that is involved in steroid metabolism. It includes the AKR1C and AKR1D subgroups, which respectively consist of AKR1C1–AKR1C4 and AKR1D1. Together with short-chain dehydrogenase/reductases (SDRs), these enzymes catalyze oxidoreductions, act on the C3, C5, C11, C17 and C20 positions of steroids, and function as 3α-HSDTooltip 3α-Hydroxysteroid dehydrogenases, 3β-HSDsTooltip 3β-Hydroxysteroid dehydrogenases, 5β-reductases, 11β-HSDsTooltip 11β-Hydroxysteroid dehydrogenases, 17β-HSDsTooltip 17β-hydroxysteroid dehydrogenases, and 20α-HSDsTooltip 20α-Hydroxysteroid dehydrogenases, respectively. The AKR1C enzymes act as 3-, 17- and 20-ketosteroid reductases, while AKR1D1 acts as the sole 5β-reductase in humans.

Immunogen: Synthetic peptide within human AKR1C1 aa 51-100 / 323.

Positive control: HeLa cell lysate, HepG2 cell lysate, Human liver tissue lysate, Mouse liver tissue lysate, Mouse testis tissue lysate, HepG2.

Subcellular location: Cytoplasm, cytosol.

Database links: SwissProt: Q04828 Human | P52895 Human

Recommended Dilutions:

WB	1:1,000
IF-Cell	1:100
FC	1:1,000

Storage Buffer: 1*TBS (pH7.4), 0.05% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.

Purity: Protein A affinity purified.

Images

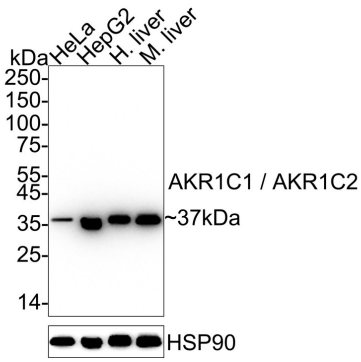

Fig1: Western blot analysis of AKR1C1 / AKR1C2 on different lysates with Rabbit anti-AKR1C1 / AKR1C2 antibody (HA722694) at 1/1,000 dilution.

Lane 1: HeLa cell lysate (10 µg/Lane)
Lane 2: HepG2 cell lysate (10 µg/Lane)
Lane 3: Human liver tissue lysate (20 µg/Lane)
Lane 4: Mouse liver tissue lysate (20 µg/Lane)

Predicted band size: 37 kDa
Observed band size: 37 kDa

Exposure time: 10 seconds; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA722694) at 1/1,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

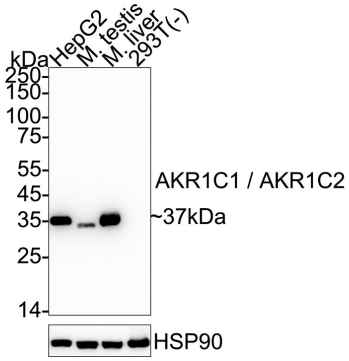

Fig2: Western blot analysis of AKR1C1 / AKR1C2 on different lysates with Rabbit anti-AKR1C1 / AKR1C2 antibody (HA722694) at 1/2,000 dilution.

Lane 1: HepG2 cell lysate (20 µg/Lane)
Lane 2: Mouse testis tissue lysate (30 µg/Lane)
Lane 3: Mouse liver tissue lysate (30 µg/Lane)
Lane 4: 293T cell lysate (negative) (20 µg/Lane)

Predicted band size: 37 kDa
Observed band size: 37 kDa

Exposure time: 12 seconds; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA722694) at 1/1,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

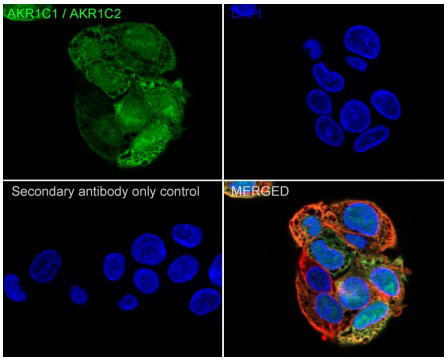

Fig3: Immunocytochemistry analysis of HepG2 cells labeling AKR1C1 / AKR1C2 with Rabbit anti-AKR1C1 / AKR1C2 antibody (HA722694) at 1/100 dilution.

Cells were fixed in 4% paraformaldehyde for 20 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 5 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-AKR1C1 / AKR1C2 antibody (HA722694) at 1/100 dilution in 1% BSA in PBST overnight at 4 ℃. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (M1305-2, red) was stained at 1/100 dilution overnight at +4℃. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

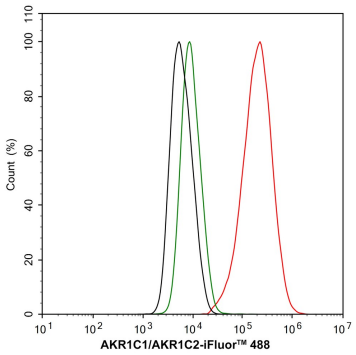

Fig4: Flow cytometric analysis of HepG2 cells labeling AKR1C1 / AKR1C2.

Cells were fixed and permeabilized. Then stained with the primary antibody (HA722694, 1/1,000) (red) compared with Rabbit IgG Isotype Control (green). After incubation of the primary antibody at +4℃ for an hour, the cells were stained with a iFluor™ 488 conjugate-Goat anti-Rabbit IgG Secondary antibody (HA1121) at 1/1,000 dilution for 30 minutes at +4℃. Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Zuo X et al. AKR1C1 Protects Corneal Epithelial Cells Against Oxidative Stress-Mediated Ferroptosis in Dry Eye. Invest Ophthalmol Vis Sci. 2022 Sep
2. Kaftalli J et al. AKR1C1 and hormone metabolism in lipedema pathogenesis: a computational biology approach. Eur Rev Med Pharmacol Sci. 2023 Dec