

DESCRIPTION	
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Aldo-keto Reductase 1C3/AKR1C3 in ELISAs and Western Blot.
<b>Source</b>	Monoclonal Mouse IgG <sub>1</sub> Clone # 871701
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human Aldo-keto Reductase 1C3/AKR1C3 Asp2-Tyr323 Accession # P42330
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

**APPLICATIONS**

Please Note: Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

	Recommended Concentration	Sample
<b>Western Blot</b>	0.5 µg/mL	See Below
<b>Immunocytochemistry</b>	8-25 µg/mL	See Below
<b>Immunohistochemistry</b>	1-25 µg/mL	See Below
<b>Simple Western</b>	5 µg/mL	See Below

**DATA**

**Western Blot**

**Detection of Human Aldo-keto Reductase 1C3/AKR1C3 by Western Blot.** Western blot shows lysates of A549 human lung carcinoma cell line and HepG2 human hepatocellular carcinoma cell line. PVDF membrane was probed with 0.5 µg/mL of Mouse Anti-Human Aldo-keto Reductase 1C3/AKR1C3 Monoclonal Antibody (Catalog # MAB7678) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for Aldo-keto Reductase 1C3/AKR1C3 at approximately 36 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

**Immunocytochemistry**

**Aldo-keto Reductase 1C3/AKR1C3 in LNCaP Human Cell Line.** Aldo-keto Reductase 1C3/AKR1C3 was detected in immersion fixed LNCaP human prostate cancer cell line stimulated with 50 ng/mL Recombinant Human/Mouse/Rat ActivinA (Catalog # 338-AC) for 24 hrs using Mouse Anti-Human Aldo-keto Reductase 1C3/AKR1C3 Monoclonal Antibody (Catalog # MAB7678) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to cell surfaces and cytoplasm. View our protocol for [Fluorescent ICC Staining of Cells on Coverslips](#).

**Simple Western**

**Detection of Human Aldo-keto Reductase 1C3/AKR1C3 by Simple Western™.** Simple Western lane view shows lysates of A549 human lung carcinoma cell line and HepG2 human hepatocellular carcinoma cell line, loaded at 0.5 mg/mL. A specific band was detected for Aldo-keto Reductase 1C3/AKR1C3 at approximately 45 kDa (as indicated) using 5 µg/mL of Mouse Anti-Human Aldo-keto Reductase 1C3/AKR1C3 Monoclonal Antibody (Catalog # MAB7678). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

**Immunohistochemistry**

**Aldo-keto Reductase 1C3/AKR1C3 in Human Prostate.** Aldo-keto Reductase 1C3/AKR1C3 was detected in immersion fixed paraffin-embedded sections of human prostate using Mouse Anti-Human Aldo-keto Reductase 1C3/AKR1C3 Monoclonal Antibody (Catalog # MAB7678) at 1.7 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Mouse IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC001). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to cytoplasm in epithelial cells. View our protocol for [IHC Staining with VisUCyte HRP Polymer Detection Reagents](#).

**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

AKR1C3 (Aldo-Keto Reductase family 1 member C3; also 17-βHSD 5, prostaglandin F synthase/PGFS and 3-αHSD type 2) is a 35-36 kDa member of the four gene 3-αHSD family, aldo-keto reductase superfamily of enzymes. It is expressed by multiple cell types, including prostate epithelium, T cells, and hepatocytes. AKR1C3 generates testosterone and progesterone, catalyzes the conversion of aldehydes and ketones into alcohols, and mediates the reduction of prostaglandin D2 into PGF2. Human AKR1C3 is 323 amino acids (aa) in length. There are three potential isoform variants. One contains an alternative start site at Met120, a second shows a five aa substitution for aa 1-28, and a third possesses a 15 aa substitution for aa 124-323. Full-length human AKR1C3 shares 73% aa sequence identity with mouse AKR1C3.