AR CUTANA™ CUT&RUN Antibody

Catalog No	13-2020	**Type**	Polyclonal
Lot No	24212002-81	**Host**	Rabbit
Pack Size	100 µL	**Concentration**	1,000 µg/mL
Applications	CUT&RUN, IHC, IP, WB	**Reactivity**	Human

DESCRIPTION

This antibody meets EpiCypher's "CUTANA Compatible" criteria for performance in Cleavage Under Targets and Release Using Nuclease (CUT&RUN) and/or Cleavage Under Targets and Tagmentation (CUT&Tag) approaches to genomic mapping. Every lot of a CUTANA Compatible antibody is tested in the indicated approach using EpiCypher optimized protocols (epicypher.com/protocols) and determined to yield peaks that show a genomic distribution pattern consistent with reported function(s) of the target protein. The androgen receptor (AR) is a transcription factor that is activated by steroid hormones. Upon binding, AR translocates into the nucleus and regulates the activity of androgen-responsive genes [1]. AR antibody produces CUT&RUN peaks above background (**Figure 1**) within gene promoters, intergenic, and intronic regions (**Figures 1-2**).

TECHNICAL INFORMATION

Immunogen	Between amino acids 1 and 50
Storage	Stable for 1 year at 4°C from date of receipt
Formulation	Antigen affinity-purified antibody in Tris-citrate/phosphate buffer pH 7-8, 0.09% sodium azide

RECOMMENDED DILUTION

CUT&RUN	0.5 µg per reaction	**Immunoprecipitation**	2 - 10 µg/mg lysate
Immunohistochemistry	1:500 - 1:2,000	**Western Blot**	1:2,000 - 1:10,000

Epitope retrieval with citrate buffer pH 6.0 is recommended for FFPE tissue sections.

GENE & PROTEIN INFORMATION

UniProt ID	P10275
Gene Name	AR
Protein Name	Androgen receptor
Target Size	99 kDa
Alternate Names	dihydrotestosterone receptor, nuclear receptor subfamily 3 group C member 4, DHTR, NR3C4, AIS, AR8, HUMARA, HYSP1, KD, SBMA, SMAX1, TFM

REFERENCES

[1] Davey & Grossmann *Clin. Biochem. Rev.* (2016). PMID: 27057074

VALIDATION DATA

CUT&RUN Methods

CUT&RUN was performed on 500k native LNCaP cells with 0.5 µg of AR, H3K4me1 positive control (EpiCypher 13-0057), or IgG negative control (EpiCypher 13-0042) antibodies using the CUTANA™ ChIC/CUT&RUN Kit v4 (EpiCypher 14-1048). Library preparation was performed with 5 ng of DNA (or the total amount recovered if less than 5 ng) using the CUTANA™ CUT&RUN Library Prep Kit (EpiCypher 14-1001/14-1002). Both kit protocols were adapted for high throughput Tecan liquid handling. Libraries were run on an Illumina NextSeq2000 with paired-end sequencing (2x50 bp). Sample sequencing depth was 9.8 million reads (AR), 13.8 million reads (H3K4me1), and 12.6 million reads (IgG). Data were aligned to the hg19 genome using Bowtie2. Data were filtered to remove duplicates, multi-aligned reads, and ENCODE DAC Exclusion List regions.

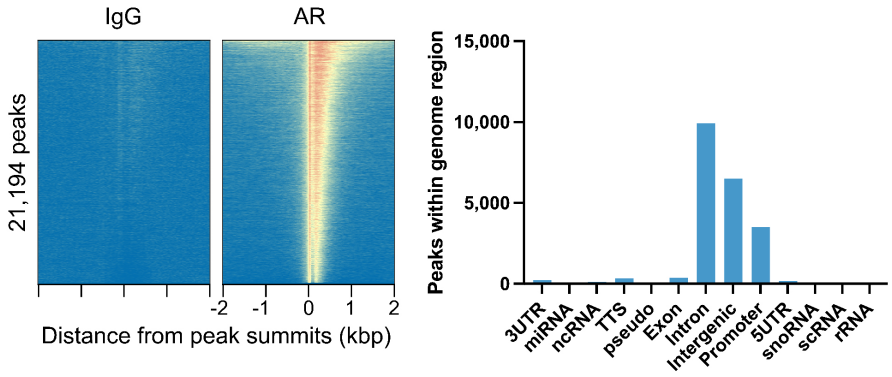

FIGURE 1 AR peaks in CUT&RUN. CUT&RUN was performed as described above. Peaks were called with MACS2. Heatmaps show AR peaks relative to IgG negative control antibody in aligned rows ranked by intensity (top to bottom) and colored such that red indicates high localized enrichment and blue denotes background signal (**left**). The number of peaks that fall into distinct classes of functionally annotated genomic regions are shown (**right**).

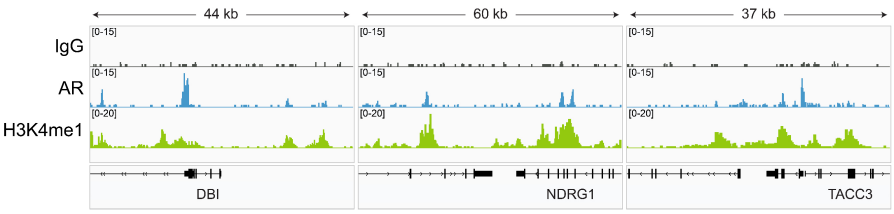

FIGURE 2 AR CUT&RUN representative browser tracks. CUT&RUN was performed as described above. Gene browser shots were generated using the Integrative Genomics Viewer (IGV, Broad Institute). Three gene loci show AR peaks at known androgen-responsive genes.

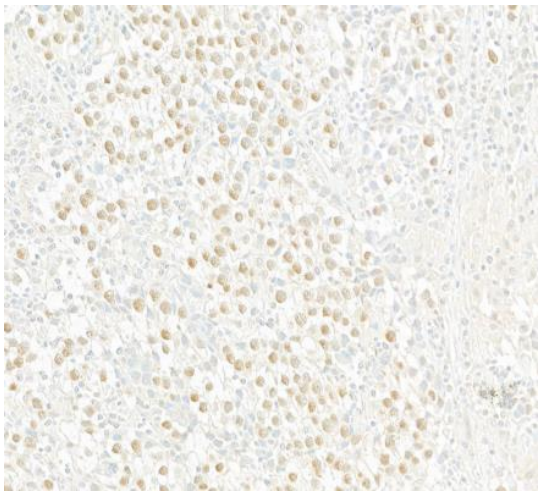

FIGURE 3 Immunohistochemistry data. FFPE section of human testicular seminoma using AR antibody at a dilution of 1:1,000.

VALIDATION DATA

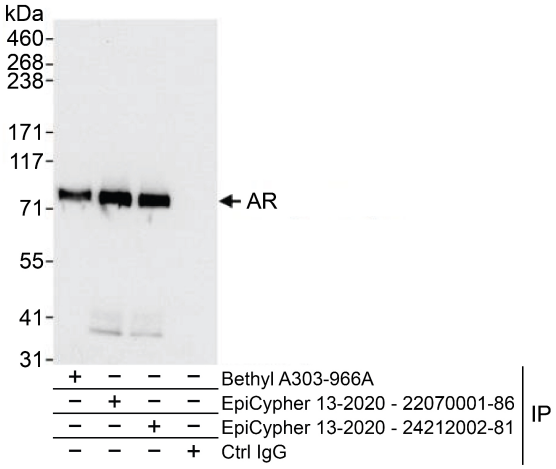

FIGURE 4 Immunoprecipitation data. EpiCypher AR antibody (6 µg/mg lysate) was used to immunoprecipitate whole cell lysates (1 mg, 5% of IP loaded) isolated from LNCaP cells. A negative control IgG antibody, previous lot of this antibody (EpiCypher 13-2020 Lot 22070001-86), and positive control antibody targeting a different AR epitope (Bethyl Laboratories A303-966A) were also used to demonstrate specificity of the IP. For blotting immunoprecipitates, EpiCypher AR antibody was used at 0.04 µg/mL.

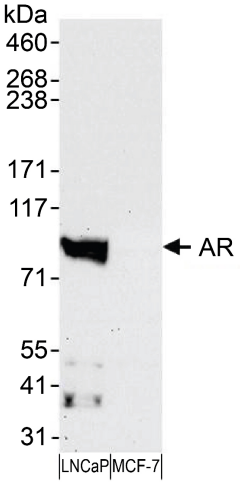

FIGURE 5 Western blot data. Western analysis of AR in whole cell extracts (50 µg) from LNCaP and MCF-7 cells. Lysates were resolved via SDS-PAGE and detected with a 1:10,000 dilution of AR antibody.