SNF2H/SMARCA5 CUTANA™ CUT&RUN Antibody

Catalog No	13-2007	**Type**	Polyclonal
Lot No	21013001-41	**Host**	Rabbit
Pack Size	100 µL	**Concentration**	200 µg/mL
Applications	CUT&RUN, WB, IP	**Reactivity**	Human, Mouse (predicted)

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. SNF2H/SMARCA5 antibody produces CUT&RUN peaks above background (**Figure 1**) that overlap with H3K4me3 (**Figures 1-2**), consistent with its known role as the ATP-dependent helicase subunit of the ISWI chromatin remodeler complex [1].

TECHNICAL INFORMATION

Immunogen	Between amino acids 50 and 100
Storage	Stable for 1 year at 4°C from date of receipt
Formulation	Antigen affinity-purified antibody in Tris-buffered saline, 0.1% BSA, 0.09% sodium azide

RECOMMENDED DILUTION

CUT&RUN	0.1 - 0.5 µg per reaction	**Western Blot**	1:2,000 - 1:10,000
Immunoprecipitation	2 - 5 µg/mg lysate		

GENE & PROTEIN INFORMATION

UniProt ID	O60264
Gene Name	SMARCA5
Protein Name	SWI/SNF-related matrix-associated actin-dependent regulator of chromatin subfamily A member 5
Target Size	122 kDa
Alternate Names	WCRF135, SWI/SNF-related matrix-associated actin-dependent regulator of chromatin A5, sucrose

REFERENCES

[1] Santos-Rosa et al. *Mol. Cell* (2003). PMID: 14636589

VALIDATION DATA

CUT&RUN Methods

CUT&RUN was performed on 500k K562 cells with either SNF2H (0.1 µg), H3K4me3 positive control (EpiCypher 13-0041; 0.5 µg), or IgG negative control (EpiCypher 13-0042; 0.5 µg) antibodies using the CUTANA™ ChIC/CUT&RUN Kit v2.0 (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 2.4 million reads (IgG), 4.1 million reads (H3K4me3), and 5.7 million reads (SNF2H). Data were aligned to the hg19 genome using Bowtie2. Data were filtered to remove duplicates, multi-aligned reads, and ENCODE DAC Exclusion List regions.

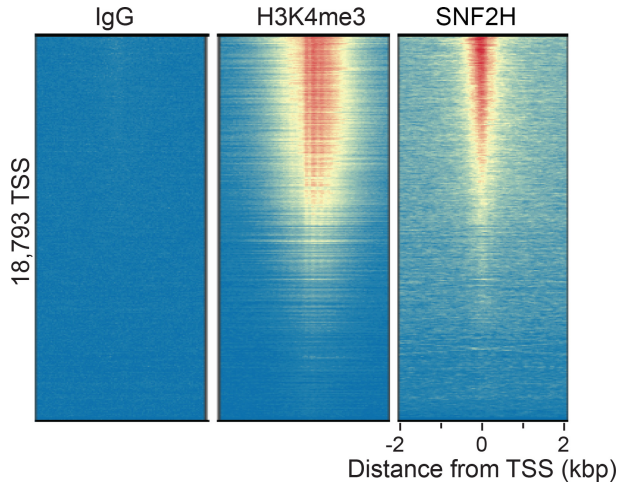

FIGURE 1 SNF2H peaks in CUT&RUN. CUT&RUN was performed as described above. Peaks were called using MACS2. Heatmaps show SNF2H peaks relative to IgG negative control antibody and H3K4me3 positive control antibody in aligned rows ranked by intensity (top to bottom) and colored such that red indicates high localized enrichment and blue denotes background signal.

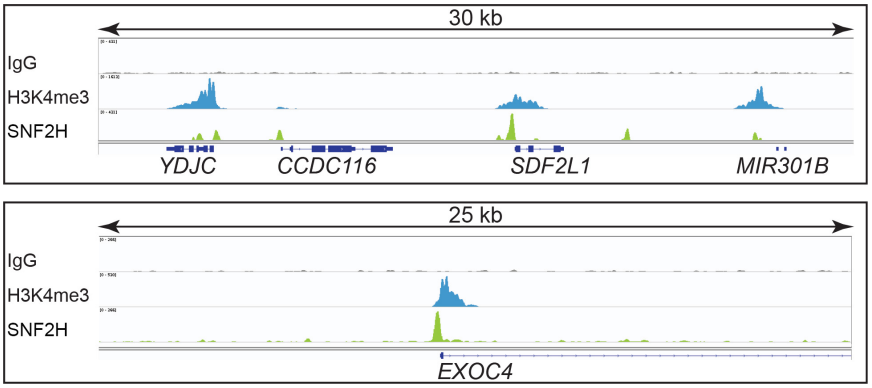

FIGURE 2 SNF2H CUT&RUN representative browser tracks. CUT&RUN was performed as described above. Gene browser shots were generated using the Integrative Genomics Viewer (IGV, Broad Institute). Two gene loci show overlap of SNF2H and H3K4me3 peaks, consistent with the reported function of SNF2H as a subunit of the ISWI chromatin remodeler complex [1].

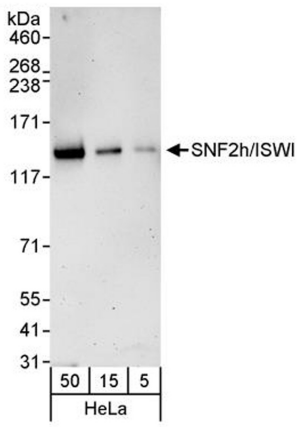

FIGURE 3 Western blot data. Whole cell lysates were isolated from HeLa cells using NETN lysis buffer. The indicated amounts (µg) of lysate were loaded onto a 4-8% SDS-PAGE gel and analyzed under standard western blot conditions using SNF2H antibody (0.04 µg/mL).

VALIDATION DATA

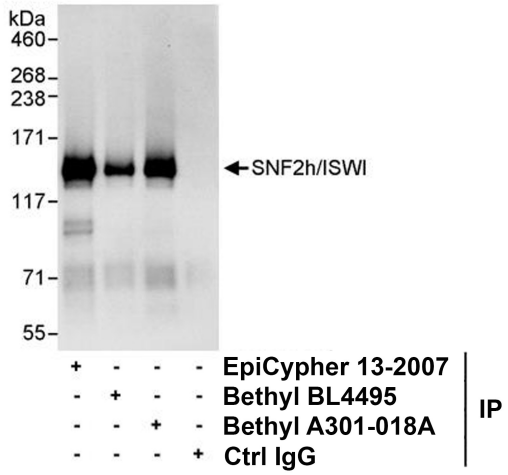

FIGURE 4 Immunoprecipitation data. EpiCypher SNF2H antibody (3 µg) was used to immunoprecipitate whole cell lysates isolated from HeLa cells using NETN lysis buffer (1 mg per IP). A negative control IgG antibody and positive control antibodies to different SNF2H epitopes (Bethyl Laboratories) were also used to demonstrate the specificity of the IP. Immunoprecipitates were loaded onto a 4-8% SDS-PAGE gel (20% of IP loaded) and probed via western blot with EpiCypher SNF2H antibody (1.0 µg/mL).