CTCF CUTANA™ CUT&RUN Antibody

Catalog No 13-2014
Lot No 21195001-01
Pack Size 100 µL

Type Monoclonal [BLR041F] **Target Size** 83 kDa **Reactivity** Human, Mouse
Host Rabbit **Format** Pur. IgG **Applications** CUT&RUN, WB, IP, IHC, ICC

Product 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 CUTANA approach using EpiCypher optimized protocols (EpiCypher.com/resources/protocols) and determined to yield peaks that show a genomic distribution pattern consistent with reported function(s) of the target protein. CTCF antibody produces CUT&RUN peaks at promoters (**Figure 1A**) and to a greater extent within intergenic and intronic regions (**Figure 1B**). CUT&RUN peaks overlap with known CTCF transcription factor binding motifs (**Figure 2**).

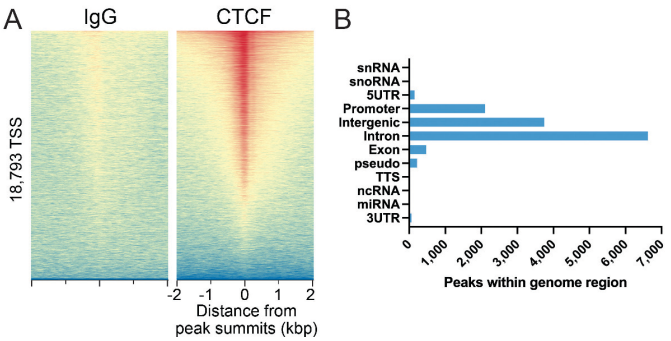

Figure 1: CTCF signal enrichment in CUT&RUN. CUT&RUN was performed using 500,000 K562 cells with CTCF antibody (0.125 µg) and IgG control (0.5 µg, EpiCypher 13-0042). (**A**) Sequencing reads were aligned to annotated TSSs (+/- 2 kbp) of 18,793 genes. High, medium, and low signal is ranked by intensity (top to bottom; aligned relative to CTCF) and reflected by red, yellow, and blue colors, respectively. (**B**) CTCF peaks were called using SEACR. The number of CTCF peaks which fall into distinct classes of functionally annotated genomic regions is plotted.

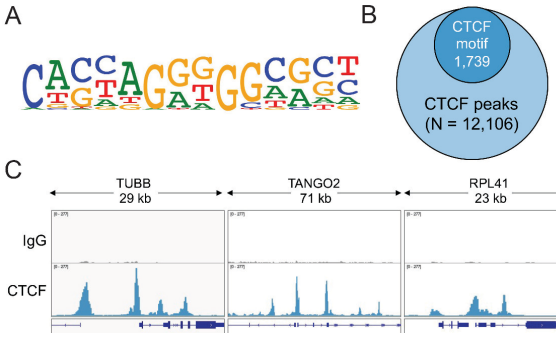

Figure 2: CTCF transcription factor binding motif analysis in CUT&RUN. (**A**) MEME analysis determined that the CTCF consensus motif, represented as a sequence logo position weight matrix, was enriched under CTCF CUT&RUN peaks. (**B**) The number of CTCF peaks containing consensus motifs from panel A is represented by a Venn Diagram. (**C**) Three representative loci showing CTCF peaks (IGV).

Immunogen:

A synthetic peptide corresponding to human CTCF (CCCTC-binding factor) amino acids 650 to 700.

Formulation:

Purified recombinant monoclonal antibody (100 µg/mL) in borate buffered saline pH 8.2, 0.1% BSA, 0.09% sodium azide.

Storage and Stability:

Stable for 1 year at 4°C from date of receipt.

Application Notes:

Recommended Dilutions:

CUT&RUN: 0.1 - 0.3 µg **IP**: 20 µL/mg lysate
WB: 1:1,000 **IHC / ICC**: 1:100 - 1:500*

**Epitope retrieval with citrate buffer pH 6.0 recommended for FFPE tissues.*

References:

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Applications Key: ChIP: Chromatin immunoprecipitation; ChIP-seq: ChIP-sequencing; CUT&RUN: Cleavage Under Targets and Release Using Nuclease; CUT&Tag: Cleavage Under Targets and Tagmentation; E: ELISA; FACS: Flow cytometry; ICC: Immunocytochemistry; IF: Immunofluorescence; IHC: Immunohistochemistry; IP: Immunoprecipitation; L: Luminex; WB: Western Blot. **Reactivity Key**: B: Bovine; Ce: *C. elegans*; Ch: Chicken; Dm: *Drosophila*; Eu: Eukaryote; H: Human; M: Mouse; Ma: Mammal; R: Rat; Sc: *S. cerevisiae*; Sp: *S. pombe*; WR: Wide Range (predicted); X: Xenopus; Z: Zebrafish

This product is for *in vitro* research use only and is not intended for use in humans or animals.

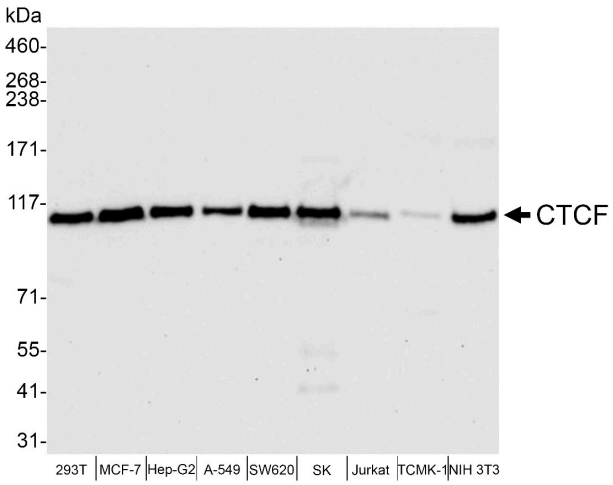

Figure 3: Western blot detection of human and mouse CTCF. Whole cell lysates were isolated from HEK293T (293T), MCF-7, Hep-G2, A-549, SW620, SK-MEL-28 (SK), Jurkat, TCMK-1, and NIH 3T3 cells using NETN lysis buffer. Fifty micrograms (50 µg) of each lysate was loaded onto an SDS-PAGE gel and analyzed under standard western blot conditions using CTCF antibody (1;1,000).

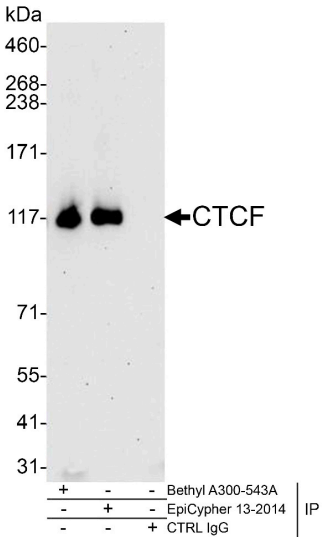

Figure 4: Immunoprecipitation of human CTCF. EpiCypher CTCF antibody (20 µL) was used to immunoprecipitate whole cell lysates isolated from HEK293T cells using NETN lysis buffer (1 mg per IP). A negative control IgG antibody and a different CTCF positive control antibody (Bethyl Laboratories) were also used to demonstrate specificity of the IP. Immunoprecipitates were loaded onto an SDS-PAGE gel (20% of IP loaded) and probed via western blot with EpiCypher CTCF antibody (1:1,000).

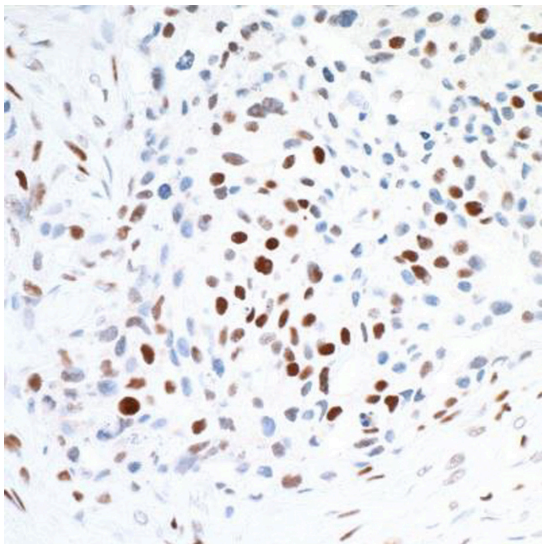

Figure 5: Immunohistochemistry detection of human CTCF. FFPE section of human lung carcinoma examined using CTCF antibody (1:100 dilution).

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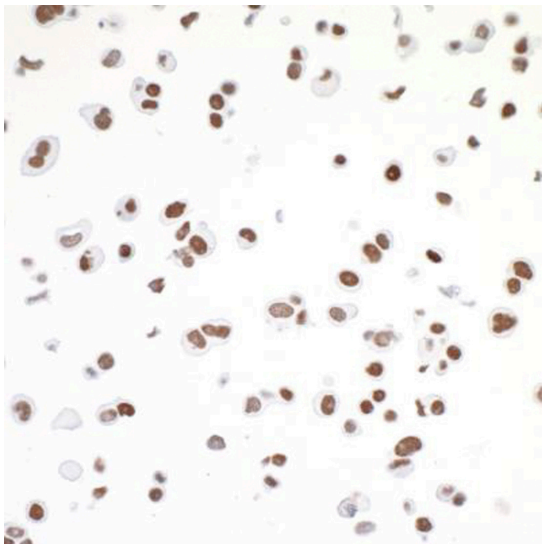

Figure 6: Immunocytochemistry detection of human CTCF. FFPE section of human MCF-7 cells examined using CTCF antibody (1:100 dilution).

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