

## CTCF antibody (pAb)

**Catalog Nos:** 61311, 61932, 61312

**RRID:** AB\_2614975

**Isotype:** IgG

**Application(s):** ChIP, ChIP-Seq, EMSA, ICC, IF, IHC, WB

**Reactivity:** Human

**Volumes:** 100  $\mu$ l, 50  $\mu$ l, 10  $\mu$ l

**Purification:** Affinity Purified

**Host:** Rabbit

**Concentration:** 1.0  $\mu$ g/ $\mu$ l

**Molecular Weight:** 120 kDa

**Background:** CTCF (CCCTC-binding factor, zinc finger protein) is a chromatin binding factor that binds to DNA sequence specific sites. Involved in transcriptional regulation by binding to chromatin insulators and preventing interaction between promoter and nearby enhancers and silencers. Acts as transcriptional repressor binding to promoters of vertebrate MYC gene and BAG1 gene. Also binds to the PLK and PIM1 promoters. Acts as a transcriptional activator of APP. Regulates APOA1/C3/A4/A5 gene cluster and controls MHC class II gene expression. Plays an essential role in oocyte and preimplantation embryo development by activating or repressing transcription. Seems to act as tumor suppressor. Plays a critical role in the epigenetic regulation. Participates in the allele-specific gene expression at the imprinted IGF2/H19 gene locus. On the maternal allele, binding within the H19 imprinting control region (ICR) mediates maternally inherited higher-order chromatin conformation to restrict enhancer access to IGF2. Plays a critical role in gene silencing over considerable distances in the genome. Preferentially interacts with unmethylated DNA, preventing spreading of CpG methylation and maintaining methylation-free zones. Inversely, binding to target sites is prevented by CpG methylation. Plays an important role in chromatin remodeling. Can dimerize when it is bound to different DNA sequences, mediating long-range chromatin looping. Mediates interchromosomal association between IGF2/H19 and WSB1/NF1 and may direct distant DNA segments to a common transcription factory. Causes local loss of histone acetylation and gain of histone methylation in the beta-globin locus, without affecting transcription. When bound to chromatin, it provides an anchor point for nucleosomes positioning. Seems to be essential for homologous X-chromosome pairing. May participate with Tsix in establishing a regulatable epigenetic switch for X-chromosome inactivation. May play a role in preventing the propagation of stable methylation at the escape genes from X-inactivation. Involved in sister chromatid cohesion. Associates with both centromeres and chromosomal arms during metaphase and required for cohesin localization to CTCF sites. Regulates asynchronous replication of IGF2/H19.

**Immunogen:** This CTCF antibody was raised against a peptide within the N-terminal region of human CTCF.

**Buffer:** Purified IgG in PBS with 30% glycerol and 0.035% sodium azide. Sodium azide is highly toxic.

### Application Notes:

Validated Applications:

ChIP: 2 - 8  $\mu$ l per ChIP

ChIP-Seq: 4  $\mu$ g per ChIP

ICC/IF: 1:2,000 dilution

WB\*: 1:500- 1:2,000 dilution

IHC (FFPE): 1:1000 dilution

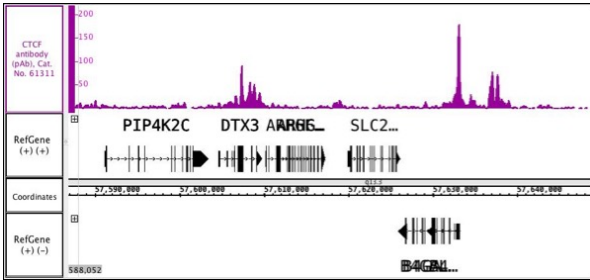
\*Note: For optimal results, we recommend a High Salt / Sonication Protocol when preparing nuclear extracts for Western Blot. Visit [activemotif.com](http://activemotif.com) to download the protocol.

Published Applications:

ChIP and EMSA

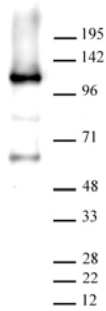
**Storage and Guarantee:** Some products may be shipped at room temperature. This will not affect their stability or performance. Avoid repeated freeze/thaw cycles by aliquoting items into single-use fractions for storage at -20°C for up to 2 years. Keep all reagents on ice when not in storage. This product is guaranteed for 12 months from date of receipt.

**Application Key:** ChIP = Chromatin Immunoprecipitation; FACS = Flow Cytometry; IF = Immunofluorescence; IHC = Immunohistochemistry; IP = Immunoprecipitation; WB = Western Blot



### CTCF antibody (rAb) tested by ChIP-Seq

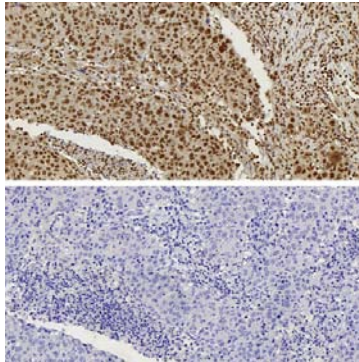
Chromatin immunoprecipitation (ChIP) was performed using the ChIP-IT® High Sensitivity Kit (Cat. No. 53040) with MCF7-SER breast cancer cell line chromatin and 4 µg of CTCF antibody. ChIP DNA was sequenced on the Illumina NextSeq and 15.4 million sequence tags were mapped to identify CTCF binding sites on chromosome 12.



### CTCF pAb tested by Western blot.

The analysis was performed using 10 µg HeLa nuclear cell extract and CTCF antibody at a 1:500 dilution.

\*For optimal results, we recommend a High Salt & Sonication Protocol when preparing nuclear extracts for detection of Histone H3K27me3. Visit [activemotif.com](http://activemotif.com) to download the protocol.



### CTCF antibody (pAb) tested by Immunohistochemistry

Nuclear staining pattern is detected in Formalin-fixed, paraffin-embedded tissue sections from human breast carcinoma. Top Panel: CTCF antibody at 1:1000 dilution. Bottom Panel: No primary antibody (2nd step antibody alone)