

# CTCF Antibody

Rabbit mAb

Catalog # AP91155

## Product Information

---

<b>Application</b>	WB, IHC, IF, FC, ICC, IHF
<b>Primary Accession</b>	<a href="#">P49711</a>
<b>Reactivity</b>	Rat, Human, Mouse
<b>Clonality</b>	Monoclonal
<b>Other Names</b>	Ctcf; CTCFL paralog; MRD21;
<b>Isotype</b>	Rabbit IgG
<b>Host</b>	Rabbit
<b>Calculated MW</b>	82785

## Additional Information

---

<b>Dilution</b>	WB 1:500~1:2000 IHC 1:100~1:500 ICC/IF 1:50~1:200 FC 1:50
<b>Purification</b>	Affinity-chromatography
<b>Immunogen</b>	A synthesized peptide derived from human CTCF
<b>Description</b>	Plays a 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.
<b>Storage Condition and Buffer</b>	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

## Protein Information

---

<b>Name</b>	CTCF
<b>Function</b>	Chromatin binding factor that binds to DNA sequence specific sites and regulates the 3D structure of chromatin (PubMed: <a href="#">16949368</a> , PubMed: <a href="#">18347100</a> , PubMed: <a href="#">18654629</a> , PubMed: <a href="#">19322193</a> ). Binds together strands of DNA, thus forming chromatin loops, and anchors DNA to cellular structures, such as the nuclear lamina (PubMed: <a href="#">18347100</a> , PubMed: <a href="#">18654629</a> , PubMed: <a href="#">19322193</a> ). Defines the boundaries between active and heterochromatic DNA via binding to chromatin insulators, thereby preventing interaction between promoter and nearby enhancers and silencers (PubMed: <a href="#">18347100</a> , PubMed: <a href="#">18654629</a> , PubMed: <a href="#">19322193</a> ). Participates in the allele-specific gene expression at the imprinted IGF2/H19 gene locus (PubMed: <a href="#">16107875</a> , PubMed: <a href="#">16815976</a> , PubMed: <a href="#">17827499</a> ). 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 (By similarity). Mediates interchromosomal association between IGF2/H19 and WSB1/NF1 and may direct distant DNA

segments to a common transcription factory (By similarity). Regulates asynchronous replication of IGF2/H19 (By similarity). Plays a critical role in gene silencing over considerable distances in the genome (By similarity). Preferentially interacts with unmethylated DNA, preventing spreading of CpG methylation and maintaining methylation-free zones (PubMed:[18413740](#)). Inversely, binding to target sites is prevented by CpG methylation (PubMed:[18413740](#)). Plays an important role in chromatin remodeling (PubMed:[18413740](#)). Can dimerize when it is bound to different DNA sequences, mediating long-range chromatin looping (PubMed:[12191639](#)). Causes local loss of histone acetylation and gain of histone methylation in the beta-globin locus, without affecting transcription (PubMed:[12191639](#)). When bound to chromatin, it provides an anchor point for nucleosomes positioning (PubMed:[12191639](#)). Seems to be essential for homologous X-chromosome pairing (By similarity). May participate with Tsix in establishing a regulatable epigenetic switch for X chromosome inactivation (PubMed:[11743158](#)). May play a role in preventing the propagation of stable methylation at the escape genes from X-inactivation (PubMed:[11743158](#)). Involved in sister chromatid cohesion (PubMed:[12191639](#)). Associates with both centromeres and chromosomal arms during metaphase and required for cohesin localization to CTCF sites (PubMed:[18550811](#)). Plays a role in the recruitment of CENPE to the pericentromeric/centromeric regions of the chromosome during mitosis (PubMed:[26321640](#)). Acts as a transcriptional repressor binding to promoters of vertebrate MYC gene and BAG1 gene (PubMed:[18413740](#), PubMed:[8649389](#), PubMed:[9591631](#)). Also binds to the PLK and PIM1 promoters (PubMed:[12191639](#)). Acts as a transcriptional activator of APP (PubMed:[9407128](#)). Regulates APOA1/C3/A4/A5 gene cluster and controls MHC class II gene expression (PubMed:[18347100](#), PubMed:[19322193](#)). Plays an essential role in oocyte and preimplantation embryo development by activating or repressing transcription (By similarity). Seems to act as tumor suppressor (PubMed:[12191639](#)).

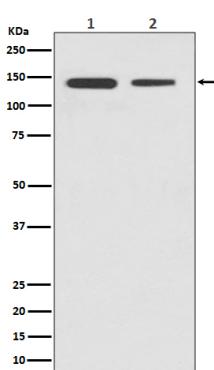
#### Cellular Location

Nucleus, nucleoplasm. Chromosome. Chromosome, centromere. Note=May translocate to the nucleolus upon cell differentiation. Associates with both centromeres and chromosomal arms during metaphase. Associates with the H19 ICR in mitotic chromosomes. May be preferentially excluded from heterochromatin during interphase

#### Tissue Location

Ubiquitous. Absent in primary spermatocytes.

#### Images



Western blot analysis of CTCF expression in (1) HeLa cell lysate; (2) Mouse brain lysate.