10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

CTCF Rabbit mAb

Catalog # AP77632

Product Information

Application	WB, IHC-P, IF, FC, ICC
Primary Accession	P49711
Reactivity	Rat, Human, Mouse
Host	Rabbit
Clonality	Monoclonal Antibody
Isotype	IgG
Conjugate	Unconjugated
Immunogen	A synthesized peptide derived from human CTCF
Purification	Affinity Chromatography
Calculated MW	82785

Additional Information

Gene ID	10664
Other Names	CTCF
Dilution	WB~~1/500-1/1000 IHC-P~~N/A IF~~1:50~200 FC~~1:10~50 ICC~~N/A
Format	Liquid in 10mM PBS, pH 7.4, 150mM sodium chloride, 0.05% BSA, 0.02% sodium azide and 50% glycerol.
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

Protein Information

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

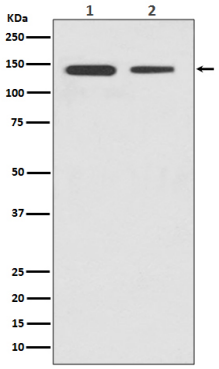
Cellular Location

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



Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.