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KD-Validated Anti-CTCF Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1192

Specification

KD-Validated Anti-CTCF Rabbit Monoclonal Antibody - Product Information

Application	**WB, FC, ICC**
Primary Accession	P49711
Reactivity	**Rat, Human, Mouse**
Clonality	**Monoclonal**
Isotype	**Rabbit IgG**
Calculated MW	**Predicted, 83 kDa , observed, 140 kDa KDa**
Gene Name	**CTCF**
Aliases	**CTCF; CCCTC-Binding Factor; CFAP108; FAP108; CCCTC-Binding Factor (Zinc Finger Protein); 11 Zinc Finger Transcriptional Repressor; Transcriptional Repressor CTCF; 11-Zinc Finger Protein; CTCFL Paralog; MRD21**
Immunogen	**A synthesized peptide derived from human CTCF**

KD-Validated Anti-CTCF Rabbit Monoclonal Antibody - Additional Information

Gene ID	**10664**

Other Names
Transcriptional repressor CTCF, 11-zinc finger protein, CCCTC-binding factor, CTCFL paralog, CTCF

KD-Validated Anti-CTCF Rabbit Monoclonal Antibody - Protein Information

Name CTCF

Function
Chromatin binding factor that binds to DNA sequence specific sites and regulates the 3D structure of chromatin (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). Plays a

critical role in the epigenetic regulation (PubMed:16949368). 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

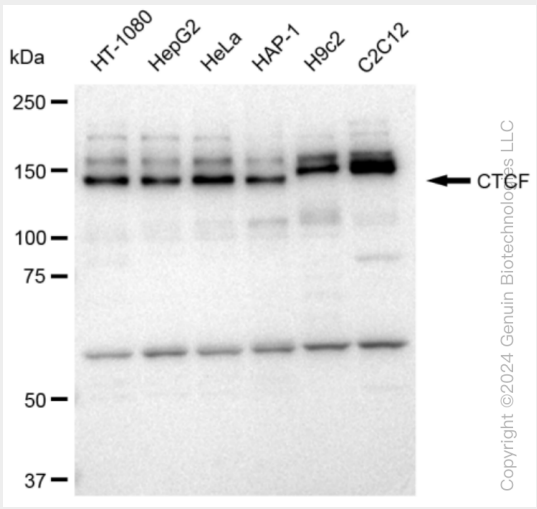
Tissue Location
Ubiquitous. Absent in primary spermatocytes.

KD-Validated Anti-CTCF Rabbit Monoclonal Antibody - Protocols

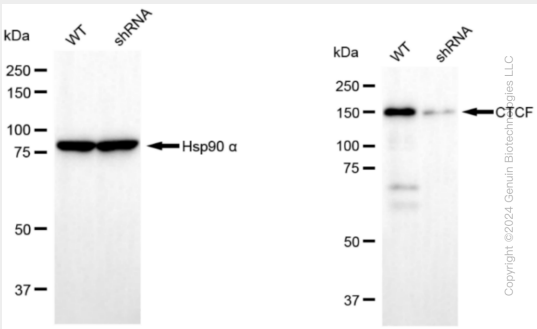
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

KD-Validated Anti-CTCF Rabbit Monoclonal Antibody - Images



Western blotting analysis using anti-CTCF antibody (Cat#AGI1192). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-CTCF antibody (Cat#AGI1192, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Western blotting analysis using anti-CTCF antibody (Cat#AGI1192). CTCF expression in wild type (WT) and CTCF shRNA knockdown (KD) HeLa cells with 30 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with anti-CTCF antibody (Cat#AGI1192, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.

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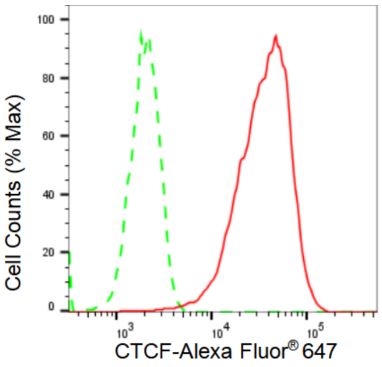
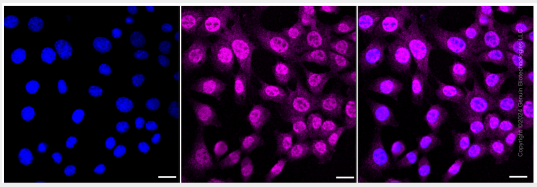


Flow cytometric analysis of CTCF expression in C2C12 cells using CTCF antibody (Cat#AGI1192, 1:2,000). Green, isotype control; red, CTCF.



Immunocytochemical staining of C2C12 cells with CTCF antibody (Cat#AGI1192, 1:1,000). Nuclei were stained blue with DAPI; CTCF was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Medium. Scale bar: 20 µm.