

Rabbit CTCF Polyclonal Antibody | anti-CTCF antibody

CTCF Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA326047	Rabbit	Human, Mouse, Rat	ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

CTCF; Polyclonal Antibody; CTCF Antibody; 11 zinc finger protein; 11 zinc finger transcriptional repressor; 11-zinc finger protein; CCCTC binding factor (zinc finger protein); CCCTC binding factor; CCCTC-binding factor; Ctf; CTCF_HUMAN; CTCFL paralog; MRD21; Transcriptional repressor CTCF; anti-CTCF antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	CTCF antibody detects endogenous levels of total CTCF
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	399
Applicable Applications for anti-CTCF antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human CTCF
Subcellular Location	Nucleus > Nucleoplasm. Chromosome. Chromosome > Centromere. 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 Specificity	Ubiquitous. Absent in primary spermatocytes.
Predicted Cross Reactivity	Pig, Bovine, Rabbit
Similarity	Pig (100%), Bovine (100%), Rabbit (100%)
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.



IHC (Immunohistochemistry)
AAA326047 at 1/100 staining Mouse colon tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.



IF (Immunofluorescence)
AAA326047 staining HepG2 cells by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) antibody, diluted at 1/600, was used as secondary antibody.



WB (Western Blot)
Western blot analysis of brain lysate usingCTCF antibody. The lane on the left is treated with the antigen-specific peptide.



WB (Western Blot)
Western blot analysis of extracts from rat muscle, using CTCF Antibody.

ADDITIONAL INFORMATION

Related Product Information for anti-CTCF antibody	Description: CCCTC-binding factor (CTCF) and its paralog, the Brother of the Regulator of Imprinted Sites (BORIS), are highly conserved transcription factors that regulate transcriptional activation and repression, insulator function, and imprinting control regions (ICRs) (1-4). Although they have divergent amino and carboxy termini, both proteins contain 11 conserved zinc finger domains that work in combination to bind the same DNA elements (1). CTCF is ubiquitously expressed and contributes to transcriptional regulation of cell-growth regulated genes, including c-myc, p19/ARF, p16/INK4A, BRCA1, p53, p27, E2F1, and TERT (1). CTCF also binds to and is required for the enhancer-blocking activity of all known insulator elements and ICRs, including the H19/Igf2, Prader-Willi/Angelman syndrome, and Inactive X-Specific Transcript (XIST) anti-sense loci (5-7). CTCF DNA-binding is sensitive to DNA methylation, a mark that determines selection of the imprinted allele (maternal vs. paternal) (1). The various functions of CTCF are regulated by at least two different post-translational modifications. Poly(ADP-ribosyl)ation of CTCF is required for insulator function (8). Phosphorylation of Ser612 by protein kinase CK2 facilitates a switch of CTCF from a transcriptional repressor to an activator at the c-myc promoter (9). CTCF mutations or deletions have been found in many breast, prostate, and Wilms tumors (10, 11). Expression of BORIS is restricted to spermatocytes and is mutually exclusive of CTCF (3). In cells expressing BORIS, promoters of X-linked cancer-testis antigens like MAGE-1A are demethylated and activated, but methylated and inactive in CTCF-expressing somatic cells (12). Like other testis specific proteins, BORIS is abnormally expressed in different cancers, such as breast cancer, and has a greater affinity than CTCF for DNA binding sites, detracting from CTCF's potential tumor suppressing activity (1, 3, 13, 14). Function: 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 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. 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. Plays a role in the recruitment of CENPE to the pericentromeric/centromeric regions of the chromosome during mitosis (PubMed:26321640). Subunit Structure: Interacts with CHD8 (PubMed:16949368). Interacts with LLPH (By similarity). Interacts with CENPE (PubMed:26321640). Post-translational Modifications: Sumoylated on Lys-74 and Lys-689; sumoylation of CTCF contributes to the repressive function of CTCF on the MYC P2 promoter. Similarity: The 11 zinc fingers are highly conserved among vertebrates, exhibiting almost identical amino acid sequences. Different subsets or combination of individual zinc fingers gives the ability to CTCF to recognize multiple DNA target sites. Belongs to the CTCF zinc-finger protein family.
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NCBI AND UNIPROT INFORMATION

NCBI GI #	300388142
NCBI GeneID	10664
NCBI Accession #	NP_001177951.1
NCBI GenBank Nucleotide #	NM_001191022.1
UniProt Accession #	P49711; Q53X17; Q59EL8; B5MC38
Molecular Weight	Observed: 83 kDa Predicted: 83 kDa

NCBI Official Full Name	transcriptional repressor CTCF isoform 2
NCBI Official Synonym Full Names	CCCTC-binding factor
NCBI Official Symbol	CTCF
NCBI Official Synonym Symbols	MRD21
NCBI Protein Information	transcriptional repressor CTCF
UniProt Protein Name	Transcriptional repressor CTCF
UniProt Gene Name	CTCF

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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