


Product datasheet

Anti-CTCF antibody - ChIP Grade ab70303

★★★★★ 7 Abreviews 30 References 5 Images

Overview

Product name	Anti-CTCF antibody - ChIP Grade
Description	Rabbit polyclonal to CTCF - ChIP Grade
Host species	Rabbit
Tested applications	Suitable for: WB, IP, ChIP, IHC-P, CHIPseq, EMSA
Species reactivity	Reacts with: Mouse, Human Predicted to work with: Rat, Cow, Pig, Chimpanzee, Rhesus monkey, Gorilla, Orangutan, Elephant 
Immunogen	Synthetic peptide corresponding to a region between residues 650 and 700 of human CTCF (Peptide available as ab115042 .)
Positive control	MCF7, 293T, NIH3T3 and HeLa whole cell lysates and Primary human lung fibroblasts.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.80 Preservative: 0.09% Sodium azide Constituents: 1.815% Tris, 1.764% Sodium citrate, 0.021% PBS
Purity	Immunogen affinity purified
Purification notes	ab70303 was affinity purified using an epitope specific to CTCF immobilized on solid support.
Clonality	Polyclonal
Isotype	IgG

Applications

Our [Abpromise guarantee](#) covers the use of **ab70303** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB	★★★★☆	1/2500 - 1/10000. Detects a band of approximately 100 kDa (predicted molecular weight: 83 kDa).
IP		Use at 2-5 µg/mg of lysate.
ChIP	★★★★★	Use at an assay dependent concentration.
IHC-P		1/100 - 1/500. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.
CHIPseq		Use at an assay dependent concentration. PubMed: 28945252
EMSA		Use at an assay dependent concentration. PubMed: 22210889

Target

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 to 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.

Tissue specificity

Ubiquitous. Absent in primary spermatocytes.

Sequence similarities

Belongs to the CTCF zinc-finger protein family.
Contains 11 C2H2-type zinc fingers.

Domain

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.

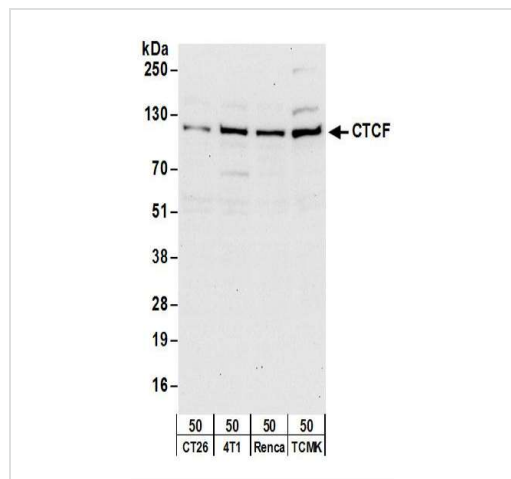
Post-translational modifications

Sumoylated on Lys-74 and Lys-689; sumoylation of CTCF contributes to the repressive function of CTCF on the MYC P2 promoter.

Cellular localization

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.

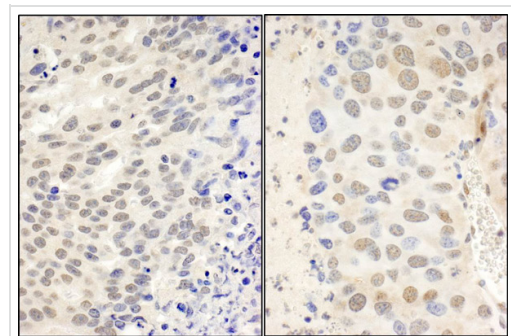
Images



Samples: Whole cell lysate (50 µg) from CT26.WT, 4T1, Renca, and TCMK-1 cells. ab70303 used at a dilution of 0.2 µg/ml.

Detection: Chemiluminescence with an exposure time of 30 seconds.

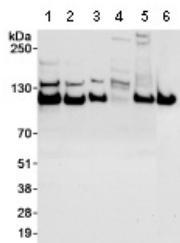
Western blot - Anti-CTCF antibody - ChIP Grade (ab70303)



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human ovarian carcinoma (left) and mouse renal cell carcinoma (right) tissues labelling CTCF with ab70303 at 1/100 (2µg/ml).

Detection: DAB.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CTCF antibody - ChIP Grade (ab70303)



Western blot - Anti-CTCF antibody - ChIP Grade (ab70303)

All lanes : Anti-CTCF antibody - ChIP Grade (ab70303) at 0.03 µg/ml

Lane 1 : MCF7 whole cell lysate at 50 µg

Lane 2 : MCF7 whole cell lysate at 15 µg

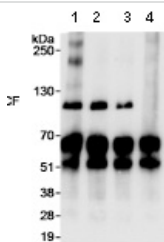
Lane 3 : MCF7 whole cell lysate at 5 µg

Lane 4 : 293T whole cell lysate at 50 µg

Lane 5 : NIH3T3 whole cell lysate at 50 µg

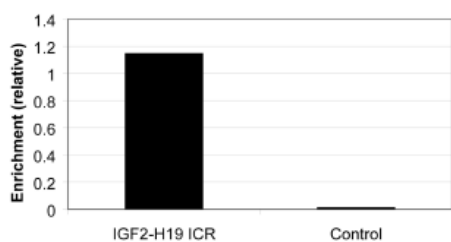
Lane 6 : HeLa whole cell lysate at 50 µg

Exposure time: 30 seconds



Immunoprecipitation - Anti-CTCF antibody - ChIP Grade (ab70303)

Detection of Human CTCF by Western Blot of Immunoprecipitate. Lane 1: MCF7 whole cell lysates immunoprecipitated using [ab70302](#) at 3µg/mg lysate (1 mg/IP; 1/4 of IP loaded/lane). Lane 2: MCF7 whole cell lysates immunoprecipitated using [ab70303](#) at 3µg/mg lysate (1 mg/IP; 1/4 of IP loaded/lane). Lane 3: MCF7 whole cell lysates immunoprecipitated using [ab70304](#) at 3µg/mg lysate (1 mg/IP; 1/4 of IP loaded/lane). Lane 4: control IgG was used for immunoprecipitation. All lanes: [ab70303](#) at 0.03µg/ml. Detection: Chemiluminescence with exposure times of 10 seconds.



ChIP - Anti-CTCF antibody - ChIP Grade (ab70303)

Analysis of Human CTCF by Chromatin Immunoprecipitation (ChIP). Primary human fibroblasts from lung (5×10^7 cells) were cross-linked with formaldehyde, sonicated, and immunoprecipitated with 20µg [ab70303](#). The resulting ChIP DNA was quantified using real-time PCR with primers against the IGF2-H19 ICR or a control region in the HoxA cluster.

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