abcam

Product datasheet

Anti-CTCF antibody ab70303

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Overview

Product name	Anti-CTCF antibody
Description	Rabbit polyclonal to CTCF
Host species	Rabbit
Tested applications	**Suitable for:** IHC-Fr, WB, IP, IHC-P
Species reactivity	**Reacts with:** Mouse, Human **Predicted to work with:** Rat, Cow, Pig, Chimpanzee, Rhesus monkey, Gorilla, Orangutan, Elephant
Immunogen	Synthetic peptide corresponding to Human CTCF aa 650-750. Database link: **P49711**
Positive control	IP: Jurkat whole cell lysate. IHC-P: Human lung cancer tissue, mouse renal cancer tissue. WB: Jurkat, HEK293T and HeLa whole cell lysate.
General notes	The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

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: 6.8 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

The Abpromise guarantee 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
IHC-Fr	★★★★★ (1)	Use at an assay dependent concentration.
WB	★★★★☆ (5)	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.
IHC-P	★☆☆☆☆ (1)	1/100 - 1/500. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Target

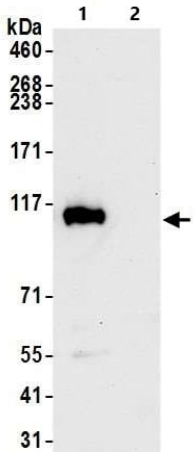
Function Chromatin binding factor that binds to DNA sequence specific sites. Involved in transcriptional regulation by binding to chromatin insulators and preventing interaction between promoter and nearby enhancers and silencers. Acts as transcriptional repressor binding to promoters of vertebrate MYC 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



Immunoprecipitation - Anti-CTCF antibody (ab70303)

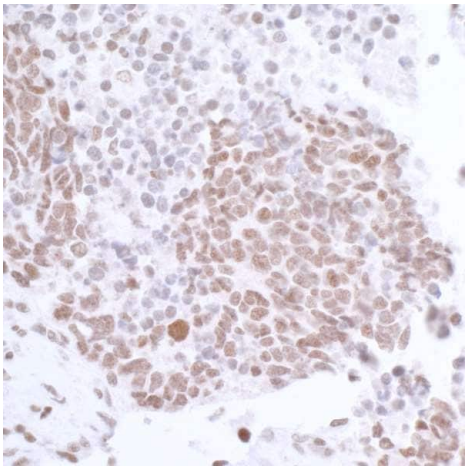
CTCF was immunoprecipitated from 1 mg Jurkat whole cell lysate with ab70303 at 6 µg per reaction. Western blot was performed on the immunoprecipitate using ab70303 at 0.02 µg/mL.

Lane 1: ab70303 IP in Jurkat whole cell lysate.

Lane 2: Contol IgG in Jurkat whole cell lysate.

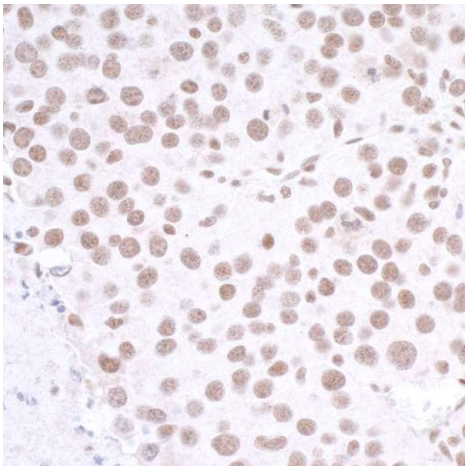
Detection: Chemiluminescence.

Exposure time: 10 seconds.



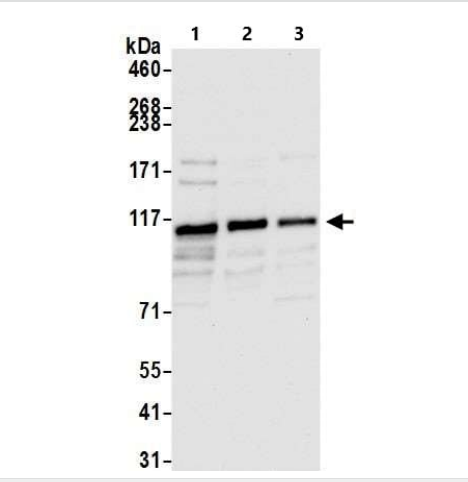
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CTCF antibody (ab70303)

Immunohistochemical analysis of formalin-fixed, paraffin-embedded human small cell lung cancer tissue, labeling CTCF with ab70303 at a 1/1000 dilution. HRP-conjugated goat anti-rabbit IgG was used as a secondary antibody.



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

Immunohistochemical analysis of formalin-fixed, paraffin-embedded mouse renal cancer tissue, labeling CTCF with ab70303 at a 1/1000 dilution. HRP-conjugated goat anti-rabbit IgG was used as a secondary antibody.



Western blot - Anti-CTCF antibody (ab70303)

All lanes : Anti-CTCF antibody (ab70303) at 0.02 µg/ml

Lane 1 : Jurkat whole cell lysate
Lane 2 : HEK293T whole cell lysate
Lane 3 : HeLa whole cell lysate

Lysates/proteins at 50 µg per lane.

Exposure time: 10 seconds

Detection: Chemiluminescence.

Lysates prepared using NETN lysis buffer.

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit **https://www.abcam.com/abpromise** or contact our technical team.

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