

CTCF (N-17): sc-5916

BACKGROUND

CTCF belongs to the zinc-finger transcription factor family and recognizes unusually long and remarkably divergent DNA target sequences to influence expression of many various genes. The DNA-binding domain of CTCF is composed of 11 Zn fingers including 10 that are of C₂H₂ class and one that is of C₂HC class, and they are highly conserved between vertebrate species. CTCF functions as a repressor of the c-Myc gene and as a regulator of lysozyme gene expression. In addition, CTCF associates with the essential activator domain in the promoter region of the β -amyloid protein precursor (APP) gene to activate transcription of APP. Expression of CTCF upregulates APP expression and thereby enhances synapse formations between primary neurons during development. CTCF is ubiquitously expressed and localized to the nucleus. During terminal differentiation, CTCF is negatively regulated by differential phosphorylation and also by decreases in CTCF mRNA and protein expression.

CHROMOSOMAL LOCATION

Genetic locus: CTCF (human) mapping to 16q22.1; Ctcf (mouse) mapping to 8 D3.

SOURCE

CTCF (N-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of CTCF of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-5916 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-5916 X, 200 μ g/0.1 ml.

APPLICATIONS

CTCF (N-17) is recommended for detection of CTCF of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

CTCF (N-17) is also recommended for detection of CTCF in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for CTCF siRNA (h): sc-35124, CTCF siRNA (m): sc-35125, CTCF shRNA Plasmid (h): sc-35124-SH, CTCF shRNA Plasmid (m): sc-35125-SH, CTCF shRNA (h) Lentiviral Particles: sc-35124-V and CTCF shRNA (m) Lentiviral Particles: sc-35125-V.

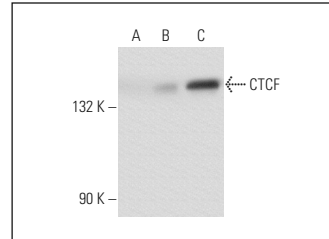
CTCF (N-17) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of CTCF: 150 kDa.

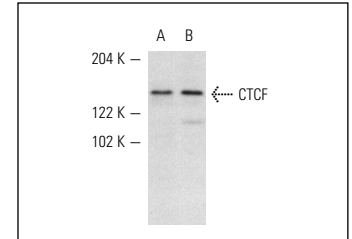
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.1

DATA



CTCF (N-17): sc-5916. Western blot analysis of CTCF expression in non-transfected: sc-117752 (A) and human CTCF transfected: sc-170327 (B) 293T whole cell lysates and Jurkat nuclear extract (C).



CTCF (N-17): sc-5916. Western blot analysis of CTCF expression in Jurkat (A) and K-562 (B) nuclear extracts.

SELECT PRODUCT CITATIONS

- Rakha, E.A., et al. 2004. Expression of the transcription factor CTCF in invasive breast cancer: a candidate gene located at 16q22.1. *Br. J. Cancer* 91: 1591-1596.
- De La Rosa-Velázquez, I.A., et al. 2007. Epigenetic regulation of the human retinoblastoma tumor suppressor gene promoter by CTCF. *Cancer Res.* 67: 2577-2585.
- Carr, M.S., et al. 2007. Allele-specific histone modifications regulate expression of the Dlk1-Gtl2 imprinted domain. *Genomics* 89: 280-290.
- MacPherson, M.J., et al. 2009. The CTCF insulator protein is posttranslationally modified by SUMO. *Mol. Cell. Biol.* 29: 714-725.
- Soto-Reyes, E. and Recillas-Targa, F. 2010. Epigenetic regulation of the human p53 gene promoter by the CTCF transcription factor in transformed cell lines. *Oncogene* 29: 2217-2227.
- Gao, J., et al. 2011. Regulation of Pax6 by CTCF during induction of mouse ES cell differentiation. *PLoS ONE* 6: e20954.
- Savic, D., et al. 2013. Mapping genome-wide transcription factor binding sites in frozen tissues. *Epigenetics Chromatin* 6: 30.
- Damaschke, N.A., et al. 2014. Frequent disruption of chromodomain helicase DNA-binding protein 8 (CHD8) and functionally associated chromatin regulators in prostate cancer. *Neoplasia* 16: 1018-1027.

RESEARCH USE

For research use only, not for use in diagnostic procedures.



Try **CTCF (G-8): sc-271474** or **CTCF (B-5): sc-271514**, our highly recommended monoclonal alternatives to CTCF (N-17).