

Product datasheet for **MR210366**

Ctcf (NM_181322) Mouse Tagged ORF Clone

Product data:

| | |
|---------------------------|---|
| Product Type: | Expression Plasmids |
| Product Name: | Ctcf (NM_181322) Mouse Tagged ORF Clone |
| Tag: | Myc-DDK |
| Symbol: | Ctcf |
| Synonyms: | AW108038 |
| Mammalian Cell Selection: | Neomycin |
| Vector: | pCMV6-Entry (PS100001) |
| E. coli Selection: | Kanamycin (25 ug/mL) |



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ORF Nucleotide
Sequence:

>MR210366 ORF sequence
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGCATCGCC**

ATGGAAGGTGAGCGGTTGAAGCCATTGTGGAGGAGTCTGAAACTTTCATTAAAGGAAAAGAAAAGAAAGA
CTTACCAGAGACGCCGGGAAGGGGGCCAGGAAGAAGATGCTTGCCACCTGCCCCAGAACCAGACAGATGG
GGTGAGGTGGTCCAGGATGTCAACAGCAGTGTACAGATGGTAATGATGGAACAGCTGGATCCTACCCTT
CTCCAGATGAAGACTGAAGTCATGGAGGTACAGTGGCTCCGGAAGCAGAGGCTGCACTGGACGATACCC
AGATCATAACCTTGCAGGTTGTAATAATGGAGGAACAGCCATTAACATAGGAGAGCTTCAGCTTGCCA
AGTACCTGTTCTGTGACGGTACCTGTTGCTACTTCCAGTAGAAGAACTTCAGGGGGCTTATGAGAAT
GAAGTGTCTAAAGAGGGCCTTGCAGAAAGTGAACCGATGATATGCACACCTTACCTTTGCCTGAAGGAT
TTCAGGTGGTAAAGTGGGGCCAATGGAGAAGTGGAGACACTAGAGCAGGGCGAGCTTCTCTCAGGA
AGACTCTAGCTGGCAAAAAGACCAGACTATCAGCCACCAGCCAAAAAACAAGAAAACAAAAAGAGC
AAACTTCGTTACACAGAAGAGGGCAAGACGTGGATGTGTCTGTGTATGATTTTGAGGAAGAACAGCAGG
AAGGACTGCTGTCTGAGTTAATGCAGAGAAAAGTGGTGGTAATGAAGCCTCCGAAGCCAACAAAAAT
TAAAAAAAAGGTGTAAGAAAACATTCAGTGTGAGCTTTGCAGTTACACATGTCCCGGGCTTCAAAAT
TTGGATCGTCACATGAAAAGCCACACTGATGAGAGACCACACAAATGCCATCTGTGTGGCAGAGCATTCA
GAACAGTGACCTCCTGAGGAATCATCTGAACACACACAGGTAAGTCTCGCTCACAAAGTCCCAGACTG
CGATATGGCCTTTGTGACCAGTGGAGAATTGGTGGCCATCGTCGTTATAAACACACTCATGAGAAAACA
TTAAGTGTCCATGTGTGATTATGCCAGTGTAGAAGTCAAGCAAAATTAACGACACATTCGCTCTCATA
CTGGAGAGCGCCCGTCCAGTGCAGTTTGTGCAGTTATGCCAGCAGGGACACATACAAGTGAAGAGGCA
TATGAGAACCATTACAGGGGAAAAACCTTATGAATGTTATATTTGTACAGCTCGGTTTACCAGAGTGGT
ACCATGAAGATGCACATTTTACAGAAGCACACAGAAAATGTGGCCAAATTCATTGTCCCCATTGTGACA
CTGTATAGCCCGAAAAGTGAATTTGGGTGTCCACTTGCAGAAAGCAGCATTCTATATTGAACAGGGCAA
AAAATGTCGCTACTGTGTGCTGTGTTTATGAGCGATATGCTCTCATCCAGCATCAAAAATCACACAAA
AATGAGAAGCGCTTCAAGTGTGACCAGTGTGATTATGCTGTAGACAGGAGCGGCACATGATCATGCACA
AGCGCACTCACACGGGGAGAAGCCTTATGCCTGCAGCCACTGCGACAAGACCTTCCGCCAGAAACAGCT
CCTCGACATGCATTTCAAGCGCTATCATGATCCCAACTTTGTCCCTGCTGCCTTTGTCTGTTCCAAGTGT
GGGAAAACATTCACCCGCCGGAACACAATGGCAAGACATGCAGATAACTGTGCTGGTCCAGATGGCGTAG
AGGGGGAAAAATGGAGGGGAGACAAAAGAAGACAAACGAGGAAGAAAAAGAAAGATGCGATCTAAAAAGA
AGACTCCTCTGACAGTGAAGAAAATGCTGAGCCGGATCTCGATGACAATGAGGAGGAGGAGGAGCCTGCT
GTAGAAATTAACCTGAGCCAGAGCCTCAGCCCCAGCCTCCGCTCCACCTCAGCCTGTGGCCCCGGCCC
CCCCACCTGCCAAGAAGAGAAGGGGGGACCTCCTGGAAGAACCAACCAGCCCAACAGAACAGCAAC
AGCCATCATTCAAGTCAAGATCAGAATACAGGTGCAATTGAGAACATTATAGTTGAAGTCAAAAAGGAG
CCAGATGCCGAGCCTGCGGAGGGGAAGAAGAGGAGGCTCAGGCAGCCACCACAGACGCCCCCAACGGAG
ACCTCACGCTGAGATGATCCTCAGCATGATGGACCGG

ACGCGTACGCGGCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >MR210366 protein sequence
 Red=Cloning site Green=Tags(s)

MEGEAVEAIVEESETFIK GKERKTYQRRREGGQEEDACHLPQNQTDGGEVVQDVNSSVQVMMEQLDPTL
 LQMKTEVMEGTVAPEAAVDDTQIITLQVNMEEQPINIGELQLVQVPVPTVPVATTSVEELQGAYEN
 EVSKEGLAESEPMICHTLPLPEGFQVVKVGANGEVETLEQGELPPQEDSSWQKDPDYQPPAKKTKKTKKS
 KLRYTEEGKDVDVSVYDFEEEEQEQGLLSEVNAEKVVGNMPPKPTKIKKKGVKKTFCQELCSYTCPRRSN
 LDRHMKSHTERPHKCHLCGRAFRVTLLRNHLNTHGTTRPHKCPDCMAFVTSGELVRHRRYKHTHEKP
 FKCSMCDYASVEVSKLKRHIRSHTGERPFQCSLCSYASRDYKLRHMRTHSGEKPYECYICHAFTQSG
 TMKMHILQKHTENVAKFHCPHCDTVIARKSDLGVHLRKQHSYIEQGKKCRYCDAVFHERYALIQHQKSHK
 NEKRFKCDQCDYACRQERHMIMHKRTHTEKPYACSHCDKTFRQKQLDMHFKRYHDPNFVPAAFVCSKC
 GKTFTRRNTMARHADNCAGPDGVEGENGETKSKRGRKRMRSKKEDSSDSEENAEPDLDNNEEEPEA
 VEIEPEPEPQPQPPPPQPVPAPPPAKRRRPPGRTNQPKNQPTAI IQVEDQNTGAIENIIVEVKKE
 PDAEPAEGEEEAQAATTDAPNGDLTPEMILSMMDR

TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

Restriction Sites:

Sgfl-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

ACCN: NM_181322

ORF Size: 2211 bp

OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

RefSeq: [NM_181322.3](#), [NP_851839.1](#)

RefSeq Size: 3848 bp

RefSeq ORF: 2211 bp

Locus ID: 13018

UniProt ID: [Q61164](#)

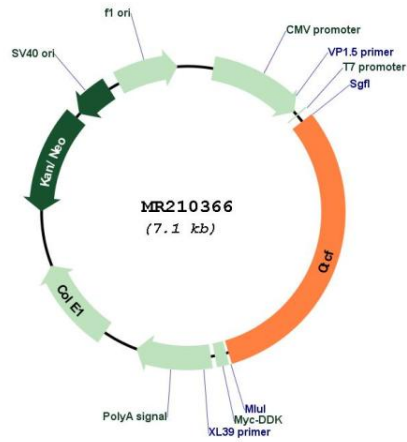
Cytogenetics: 8 D3

MW: 83.7 kDa

Gene Summary:

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 an important role in chromatin remodeling. Can dimerize when it is bound to different DNA sequences, mediating long-range chromatin looping (By similarity). 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 (By similarity). [UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR210366