Leader in Biomolecular Solutions for Life Science

www.abclonal.com

CTCF Knockout 293T Cell Line, Homozygous

Catalog No.: RM01849

Basic Information

Catalog No.
RM01849

Category
Cell Line

Parental Cell line
293T

Genotype
Knockout

Gene Information

Gene Symbol
CTCF

Species
Human

Gene ID
10664

Swiss Prot
P49711

Synonyms
MRD21

Contact

400-999-6126

cn.market@abclonal.com.cn

www.abclonal.com.cn

Background

This gene is a member of the BORIS + CTCF gene family and encodes a transcriptional regulator protein with 11 highly conserved zinc finger (ZF) domains. This nuclear protein is able to use different combinations of the ZF domains to bind different DNA target sequences and proteins. Depending upon the context of the site, the protein can bind a histone acetyltransferase (HAT)-containing complex and function as a transcriptional activator or bind a histone deacetylase (HDAC)-containing complex and function as a transcriptional repressor. If the protein is bound to a transcriptional insulator element, it can block communication between enhancers and upstream promoters, thereby regulating imprinted expression. Mutations in this gene have been associated with invasive breast cancers, prostate cancers, and Wilms' tumors. Alternatively spliced transcript variants encoding different isoforms have been found for this gene.

Product Information

Description
CTCF Knockout 293T cell line is engineered from 293T cell line with Gene-Editing Technology.
Allele-1:exon2 was deleted
Allele-2:exon2 was deleted
Mammalian cells such as human, rat and mouse cells are normally diploid with two alleles. Homozygote: both alleles were knocked out, mRNA has no signal, no expression of proteins. Heterozygote: only one allele was knocked out, the mRNA transcript levels was decreased compared to wild type, and the protein expression levels was also lower than that of the wild type.

Packaging
1 vial parental cell line and 1 vial knockout cell line

Shipping Conditions
Dry ice

Amount
1~5x10^6 cells/vial.

Storage
Stored in liquid nitrogen for a long time less than -130℃. Minimizing freeze-thaw cycles.

Protocol
Upon arrival, it should be maintained in DMEM medium with 10%(v/v) fetal bovine serum and 100U penicillin-streptomycin, at 37℃ with 5% CO_2 condition.
1. Thaw the vial in 37℃ water bath ,and shake it to melt as soon as possible.
2. Transfer the cell suspension to a 15mL conical tube with pre-warmed 5mL complete medium and centrifuge 1000rpm for approximately 5 minutes at room temperature.
3. Remove and discard the supernatant.
4. Resuspend the cell pellet with 1mL pre-warmed complete medium and seed in 10cm dish.
5. Add 8-10mL of complete medium.
6. Incubate the culture at 37℃ incubator with 5% CO_2.
7. A subcultivation ratio of 1:2-1:4 is recommended.

Sequencing data

```
WT   AGTGCCCCAAAG**********AATTCGTTGTT
Mut  AGTGCCCCAAAG***Deletion(358bp)***AATTCGTTGTT
Allele-1:  exon2 was deleted

WT     TCGTATTTCAG**********GTAGGACTTCT
Mut    TCGTATTTCAG**********GTAGGACTTCT
Allele-2:  WT
```

Genome sequence analysis of PCR products from parental (WT) and CTCF knockdown (KD) 293T cells, using sanger sequencing.