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LMNA Knockout HeLa Cell Line, Homozygous

Catalog No.: RM50164

Basic Information

Catalog No.
RM50164

Category
Cell Line

Parental Cell line
HeLa

Genotype
Knockout

Gene Information

Gene Symbol
LMNA

Species
Human

Gene ID
4000

Swiss Prot
P02545

Synonyms
FPL; IDC; LFP; CDDC; EMD2; FPLD; HGPS; LDP1; LMN1; LMNC; MADA; PRO1; CDCD1; CMD1A; FPLD2; LMNL1; CMT2B1; LGMD1B; /C

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Background

The protein encoded by this gene is part of the nuclear lamina, a two-dimensional matrix of proteins located next to the inner nuclear membrane. The lamin family of proteins make up the matrix and are highly conserved in evolution. During mitosis, the lamina matrix is reversibly disassembled as the lamin proteins are phosphorylated. Lamin proteins are thought to be involved in nuclear stability, chromatin structure and gene expression. Vertebrate lamins consist of two types, A and B. Alternative splicing results in multiple transcript variants. Mutations in this gene lead to several diseases: Emery-Dreifuss muscular dystrophy, familial partial lipodystrophy, limb girdle muscular dystrophy, dilated cardiomyopathy, Charcot-Marie-Tooth disease, and Hutchinson-Gilford progeria syndrome.

Product Information

Description
LMNA Knockout cell line is engineered from HeLa cell line with Gene-Editing Technology.
Allele-1:85bp deletion in exon2
Allele-2:86bp deletion in exon2
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
Store at -20℃

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

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WT    GAGGGTGACCTGAT**************ACGCTGGAGGGCGA
Mut   GAGGGTGACCTGAT***Deletion***ACGCTGGAGGGCGA
Allele-1：85bp deletion in exon2

WT    GAGGGTGACCTGAT**************CGCTGGAGGGCGAG
Mut   GAGGGTGACCTGAT***Deletion***CGCTGGAGGGCGAG
Allele-2：86bp deletion in exon2
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Genome sequence analysis of PCR products from parental (WT) and LMNA knockout (KO) HeLa cells, using sanger sequencing.