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HIF1A Knockout HeLa Cell Line, Homozygous

Catalog No.: RM01766

Basic Information

Catalog No.
RM01766

Category
Cell Line

Parental Cell line
HeLa

Genotype
Knockout

Background

This gene encodes the alpha subunit of transcription factor hypoxia-inducible factor-1 (HIF-1), which is a heterodimer composed of an alpha and a beta subunit. HIF-1 functions as a master regulator of cellular and systemic homeostatic response to hypoxia by activating transcription of many genes, including those involved in energy metabolism, angiogenesis, apoptosis, and other genes whose protein products increase oxygen delivery or facilitate metabolic adaptation to hypoxia. HIF-1 thus plays an essential role in embryonic vascularization, tumor angiogenesis and pathophysiology of ischemic disease. Alternatively spliced transcript variants encoding different isoforms have been identified for this gene.

Gene Information

Gene Symbol
HIF1A

Species
Human

Gene ID
3091

Swiss Prot
Q16665

Synonyms
HIF-1-alpha; HIF-1A; HIF-1alpha; HIF1; HIF1-ALPHA; MOP1; PASD8; bHLHe78

Product Information

Description
HIF1A Knockout cell line is engineered from HeLa cell line with Gene-Editing Technology.
Allele-1:1bp insertion in exon2
Allele-2:1bp deletion and 5bp replacement 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.
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.

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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

Genome sequence analysis of PCR products from parental (WT) and HIF1A knockout (KO) HeLa cells, using sanger sequencing.