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# GSR Knockout HeLa Cell Line, Homozygous

**Catalog No.: RM50050**

## Basic Information

**Catalog No.**
RM50050

**Category**
Cell Line

**Parental Cell line**
HeLa

**Genotype**
Knockout

## Background

This gene encodes a member of the class-I pyridine nucleotide-disulfide oxidoreductase family. This enzyme is a homodimeric flavoprotein. It is a central enzyme of cellular antioxidant defense, and reduces oxidized glutathione disulfide (GSSG) to the sulfhydryl form GSH, which is an important cellular antioxidant. Rare mutations in this gene result in hereditary glutathione reductase deficiency. Multiple alternatively spliced transcript variants encoding different isoforms have been found.

## Gene Information

**Gene Symbol**
GSR

**Species**
Human

**Gene ID**
2936

**Swiss Prot**
P00390

**Synonyms**
GR; GSRD; HEL-75; HEL-S-122m; GSR

## Contact


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## Product Information

**Description**
GSR Knockout cell line is engineered from HeLa cell line with Gene-Editing Technology.
Allele-1:109bp deletion in exon1
Allele-2:109bp deletion in exon1
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**
1~5x$10^6$ 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

```
WT   CCCGCCGCCCGCTG**********CCACAAGCTGGGTG
Mut  CCCGCCGCCCGCTG***Deletion***CCACAAGCTGGGTG
Allele-1:   109bp deletion in exon1

WT   CCGCCGCCCGCTGC**********CACAAGCTGGGTGG
Mut  CCGCCGCCCGCTGC***Deletion***CACAAGCTGGGTGG
Allele-2:   109bp deletion in exon1
```

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



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