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# SMPD1 Knockout HeLa Cell Line, Homozygous

**Catalog No.: RM02211**

## Basic Information

**Catalog No.**
RM02211

**Category**
Cell Line

**Parental Cell line**
HeLa

**Genotype**
Knockout

## Background

The protein encoded by this gene is a lysosomal acid sphingomyelinase that converts sphingomyelin to ceramide. The encoded protein also has phospholipase C activity. Defects in this gene are a cause of Niemann-Pick disease type A (NPA) and Niemann-Pick disease type B (NPB). Multiple transcript variants encoding different isoforms have been identified. [provided by RefSeq, Jul 2010]

## Gene Information

**Gene Symbol**
SMPD1

**Species**
Human

**Gene ID**
6609

**Swiss Prot**
P17405

**Synonyms**
ASM; ASMASE; NPD

## Contact


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## Product Information

**Description**
SMPD1 Knockout cell line is engineered from HeLa cell line with Gene-Editing Technology.
Allele-1:142bp deletion in exon1
Allele-2:142bp 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**
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    GGACAAGACGGGAC**************AGGTTACATCGCAT
Mut   GGACAAGACGGGAC***Deletion***AGGTTACATCGCAT
Allele-1: 142bp deletion in exon1

WT    GGACAAGACGGGAC**************AGGTTACATCGCAT
Mut   GGACAAGACGGGAC***Deletion***AGGTTACATCGCAT
Allele-2: 142bp deletion in exon1
```

Genome sequence analysis of PCR products from parental (WT) and SMPD1 knockout (KO) HeLa cells, using sanger sequencing.