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# PTPN1 Knockout HeLa Cell Line, Homozygous

**Catalog No.: RM02501**

## Basic Information

**Catalog No.**
RM02501

**Category**
Cell Line

**Parental Cell line**
HeLa

**Genotype**
Knockout

## Gene Information

**Gene Symbol**
PTPN1

**Species**
Human

**Gene ID**
5770

**Swiss Prot**
P18031

**Synonyms**
PTP1B

## Contact


400-999-6126

cn.market@abclonal.com.cn

www.abclonal.com.cn


## Background

The protein encoded by this gene is the founding member of the protein tyrosine phosphatase (PTP) family, which was isolated and identified based on its enzymatic activity and amino acid sequence. PTPs catalyze the hydrolysis of the phosphate monoesters specifically on tyrosine residues. Members of the PTP family share a highly conserved catalytic motif, which is essential for the catalytic activity. PTPs are known to be signaling molecules that regulate a variety of cellular processes including cell growth, differentiation, mitotic cycle, and oncogenic transformation. This PTP has been shown to act as a negative regulator of insulin signaling by dephosphorylating the phosphotryosine residues of insulin receptor kinase. This PTP was also reported to dephosphorylate epidermal growth factor receptor kinase, as well as JAK2 and TYK2 kinases, which implicated the role of this PTP in cell growth control, and cell response to interferon stimulation. Two transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jul 2013]

## Product Information

**Description**
PTPN1 Knockout HeLa Cell Line knockout is engineered from HeLa cell line with Gene-Editing Technology.
Allele-1:106bp deletion in exon3
Allele-2:106bp deletion in exon3
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    TAAAATGCGCACAA**********AATTGGAAAACCTT
Mut   TAAAATGCGCACAA***Deletion***AATTGGAAAACCTT
Allele-1:   106bp deletion in exon3

WT    TAAAATGCGCACAA**********AATTGGAAAACCTT
Mut   TAAAATGCGCACAA***Deletion***AATTGGAAAACCTT
Allele-2:   106bp deletion in exon3
```

Genome sequence analysis of PCR products from parental (WT) and PTPN1 knockout (KO) HeLa cells, using sanger sequencing.