SABiosciences™

Product Specification Sheet

SureSilencing™ SilenciX Knockout Cell Lines

LigIV HeLa SilenciX Catalog # SLX-00010

Description

Lot #	070920A
Source	Adherent HeLa cells silenced for LigIV (Accession Number: NM_002312), Clone BD940/3
Formulation	Cryo-preserved at passage 23

Target Background

Targeted Gene	**Ligase IV**
Source	Homo sapiens
Gene Name	DNA Ligase IV; ligase IV, DNA, ATP-dependent
Gene Accession Number	NM_002312
Protein Accession Number	P49917
Protein Name	DNA ligase 4
Protein Function	Efficiently joins single-strand breaks in a double-stranded polydeoxynucleotide in an ATP-dependent reaction. Involved in DNA non-homologous end joining (NHEJ) required for double-strand break-repair and V(D)J-recombination. The Lig4-XRCC4 complex is responsible for the NHEJ ligation step, and XRCC4 enhances the joining activity of Lig4. Binding of the Lig4-XRCC4 complex to DNA ends is dependent on the assembly of the DNA-dependent protein kinase complex DNA-pk to these DNA ends.

Quality Control

Contamination Analysis

Tested free of bacterial contamination in antibiotic-free medium and tested free of mycoplasma with MycoAlert Mycoplasma Detection Kit (Lonza Inc, USA: Catalog Number LT07-318)

Silencing Validation by real-time PCR:

Cell line	**LigIV HeLa SilenciX**
LigIV Silencing (%)	**84%**

Validation of LigIV knock-down by real-time PCR in LigIV HeLa SilenciX cells, in comparison with Control HeLa SilenciX cells, using the LigIV primer set PPH00746A (SABiosciences).

Relative PCR quantitation allows direct comparison of gene expression levels for housekeeping genes and the target gene of interest (GOI) in both control HeLa SilenciX cells and GOI HeLa SilenciX cells.

The difference between the C_t values (ΔC_t) for each gene is calculated:

$$\Delta C_t \text{ (GOI HeLa SilenciX)} = C_t \text{ (GOI HeLa SilenciX)} - C_t \text{ (Housekeeping gene)}$$

888.503.3187 301.682.9200 www.SABiosciences.com support@SABiosciences.com

ΔC_t (control HeLa SilenciX) = C_t (control HeLa SilenciX) – C_t (Housekeeping gene)

The difference in ΔC_t values ($\Delta\Delta C_t$) is determined between the control HeLa SilenciX cells and the GOI HeLa SilenciX cells.

$\Delta\Delta C_t$ = ΔC_t (GOI HeLa SilenciX) - ΔC_t (control HeLa SilenciX)

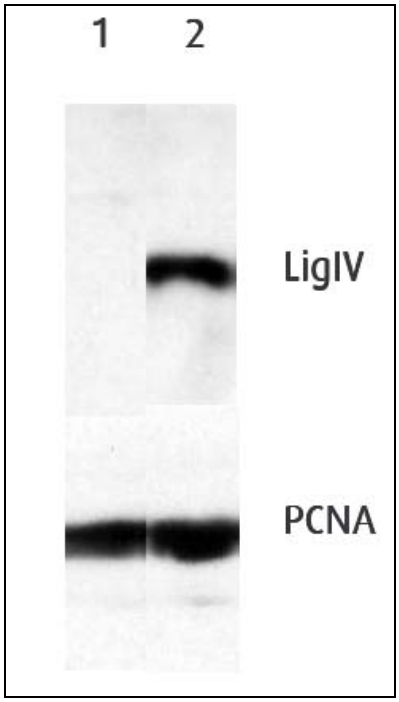
The fold change in gene expression is obtained as follows:

$$\text{Fold Change} = 2^{-[\Delta C_t \text{ (GOI HeLa SilenciX)} - \Delta C_t \text{ (control HeLa SilenciX)}]}$$

The level of GOI expression in control HeLa SilenciX is set to 1 and represents 100% GOI expression in the control HeLa SilenciX cell line. The level of silencing is expressed as percentage of GOI silencing:

Percentage of GOI silencing = 100 – (fold change X 100)

Silencing Validation by Western blot analysis:



Validation by Western blot analysis of gene silencing in Ligase IV HeLa SilenciX cells (Lane 1) compared to control HeLa SilenciX cells (Lane 2).

Storage Conditions

SureSilencing SilenciX Knockout cells are shipped on dry ice. For efficient and long-term storage, store this cell line properly in liquid nitrogen.

Usage Restrictions

This product is intended for research purposes only and is not intended for diagnostic and clinical purposes or for Human applications. You are responsible for its safe storage, handling, and use.

SABiosciences and tebu-bio are not liable for any damages or injuries arising from receipt and/or use of this product.

It is strictly forbidden to:

- make the SilenciX cell lines available to any third party,
- transfer, sell, or distribute the silenced and the control cell lines, out of the laboratory,
- sub-license the silenced and the control cell lines,
- develop new cell lines using the SilenciX know-how,
- offer commercial services on SilenciX cell lines (silenced and control cell lines).

Technical Service

For more information about the use of SureSilencing SilenciX Knockout cell lines, please contact technical support at: **Support@SABiosciences.com**

MORE INFORMATION AT www.SABiosciences.com

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