

## Human LIG4 Knockdown Cell Lysate

Cat. No. LIG4-226HKCL Lot. No. (See product label)

### SPECIFICATION

**Product Overview** WB-validated LIG4 Knockdown HeLa Cell Lysate

**Species** Human

**Source** HeLa

**Description**

The protein encoded by this gene is a DNA ligase that joins single-strand breaks in a double-stranded polydeoxynucleotide in an ATP-dependent reaction. This protein is essential for V(D)J recombination and DNA double-strand break (DSB) repair through nonhomologous end joining (NHEJ). This protein forms a complex with the X-ray repair cross complementing protein 4 (XRCC4), and further interacts with the DNA-dependent protein kinase (DNA-PK). Both XRCC4 and DNA-PK are known to be required for NHEJ. The crystal structure of the complex formed by this protein and XRCC4 has been resolved. Defects in this gene are the cause of LIG4 syndrome. Alternatively spliced transcript variants encoding the same protein have been observed.

**Form** Cell-Tissue Lysis buffer

**Molecular Mass** 104 kDa

**Notes**

Instruction of use: This knockdown cell lysate should be paired with wild-type HeLa cell lysate for use. For Western blotting, we recommend running wild-type and knockdown lysates on the same gel, and loading each well with equal volume and equal amount of total proteins.

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<b>Storage</b>	Store at -20 centigrade for two years.
<b>Concentration</b>	Lot-specific
<b>Shipping</b>	Blue Ice
<b>Components</b>	1 vial of 100 µg WT HeLa cell lysate 1 vial of 100 µg LIG4 KD HeLa cell lysate
<b>Protein Families</b>	Druggable Genome
<b>Protein Pathways</b>	Non-homologous end-joining
<b>Lysate QC</b>	RT-qPCR; Western Blotting (WB)

## GENE INFORMATION

<b>Gene Name</b>	LIG4 ligase IV, DNA, ATP-dependent [ Homo sapiens (human) ]
<b>Official Symbol</b>	LIG4
<b>Synonyms</b>	LIG4; ligase IV, DNA, ATP-dependent; DNA ligase 4; DNA joinase; DNA repair enzyme; polydeoxyribonucleotide synthase [ATP] 4; polynucleotide ligase; sealase; DNA ligase IV;
<b>Gene ID</b>	3981
<b>mRNA Refseq</b>	NM_001098268
<b>Protein Refseq</b>	NP_001091738
<b>MIM</b>	601837

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