

Recombinant Human LIG4 protein, GST-tagged

Cat. No. LIG4-508H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human LIG4(802 a.a. - 911 a.a.), fused with GST tag at N-terminal, was expressed in Wheat Germ.
Species	Human
Source	Wheat Germ
ProteinLength	802 a.a. - 911 a.a.
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	50 mM Tris-HCl, 10 mM reduced Glutathione, pH=8.0 in the elution buffer.
Molecular Mass	37.73 kDa
AA Sequence	RYSWDCSPLSMFRRHTVYLD SYAVINDLSTKNEGTRLAIKALELRFHGAKVVSCLA E

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GVSHVIIGEDHSRVADFK AFRRTFKRKFKILKESWVTDSIDKCELQEENQYLI

Applications

Enzyme-linked Immunoabsorbent Assay; Western Blot (Recombinant protein); Antibody Production; Protein Array

Notes

Best use within three months from the date of receipt of this protein.

Storage

Store at -80°C. Aliquot to avoid repeated freezing and thawing.

GENE INFORMATION

Gene Name

LIG4 ligase IV, DNA, ATP-dependent [Homo sapiens]

Official Symbol

LIG4

Synonyms

LIG4; ligase IV, DNA, ATP-dependent; DNA ligase 4; DNA joinase; DNA repair enzyme; polydeoxyribonucleotide synthase [ATP] 4; polynucleotide ligase; sealase; DNA ligase IV;

Gene ID

3981

mRNA Refseq

NM_001098268

Protein Refseq

NP_001091738

MIM

601837

UniProt ID

P49917

**Chromosome
Location**

13q33-q34

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Pathway

2-LTR circle formation, organism-specific biosystem; DNA Repair, organism-specific biosystem; Disease, organism-specific biosystem; Double-Strand Break Repair, organism-specific biosystem; Early Phase of HIV Life Cycle, organism-specific biosystem; HIV Infection, organism-specific biosystem; HIV Life Cycle, organism-specific biosystem;

Function

ATP binding; DNA binding; DNA ligase (ATP) activity; DNA ligase activity; DNA ligase activity; ligase activity; metal ion binding; nucleotide binding; protein C-terminus binding; protein binding;

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