# 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.), fussed 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** | RYSWDCSPLSMFRRHTVYLDSYAVINDLSTKNEGTRLAIKALELRFHGAKVVSCLAE |

Tel: 1-631-559-9269 1-516-512-3133
Email: info@creative-biomart.com Fax: 1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA

| | |
|---|---|
| | 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 |

Tel: 1-631-559-9269 1-516-512-3133
Email: info@creative-biomart.com Fax: 1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA

| | |
|---|---|
| **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; |

Tel: 1-631-559-9269 1-516-512-3133
Email: info@creative-biomart.com Fax: 1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA