

**LIG4 Antibody (N-term)**  
**Affinity Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP20303a****Specification**

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**LIG4 Antibody (N-term) - Product Information**

|                   |                        |
|-------------------|------------------------|
| Application       | WB,E                   |
| Primary Accession | <a href="#">P49917</a> |
| Reactivity        | Human                  |
| Host              | Rabbit                 |
| Clonality         | Polyclonal             |
| Isotype           | Rabbit IgG             |
| Calculated MW     | 103971                 |
| Antigen Region    | 239-267                |

**LIG4 Antibody (N-term) - Additional Information****Gene ID** 3981**Other Names**

DNA ligase 4, DNA ligase IV, Polydeoxyribonucleotide synthase [ATP] 4, LIG4

**Target/Specificity**

This LIG4 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 239-267 amino acids from the N-terminal region of human LIG4.

**Dilution**

WB~~1:1000

**Format**

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

**Storage**

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

LIG4 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

**LIG4 Antibody (N-term) - Protein Information****Name** LIG4 {ECO:0000303|PubMed:16357942, ECO:0000312|HGNC:HGNC:6601}

**Function** DNA ligase involved in DNA non-homologous end joining (NHEJ); required for double-strand break (DSB) repair and V(D)J recombination (PubMed:[8798671](#), PubMed:[9242410](#), PubMed:[9809069](#), PubMed:[12517771](#), PubMed:[17290226](#), PubMed:[23523427](#), PubMed:[29980672](#),

PubMed:[33586762](#)). Catalyzes the NHEJ ligation step of the broken DNA during DSB repair by resealing the DNA breaks after the gap filling is completed (PubMed:[9242410](#), PubMed:[9809069](#), PubMed:[12517771](#), PubMed:[17290226](#)). Joins single-strand breaks in a double-stranded polydeoxynucleotide in an ATP-dependent reaction (PubMed:[9242410](#), PubMed:[9809069](#), PubMed:[12517771](#), PubMed:[17290226](#)). LIG4 is mechanistically flexible: it can ligate nicks as well as compatible DNA overhangs alone, while in the presence of XRCC4, it can ligate ends with 2-nucleotides (nt) microhomology and 1-nt gaps (PubMed:[17290226](#)). Forms a subcomplex with XRCC4; the LIG4-XRCC4 subcomplex is responsible for the NHEJ ligation step and XRCC4 enhances the joining activity of LIG4 (PubMed:[9242410](#), PubMed:[9809069](#)). 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 (PubMed:[10854421](#)). LIG4 regulates nuclear localization of XRCC4 (PubMed:[24984242](#)).

#### Cellular Location

Nucleus

#### Tissue Location

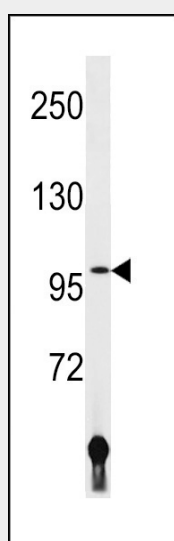
Testis, thymus, prostate and heart.

### LIG4 Antibody (N-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### LIG4 Antibody (N-term) - Images



LIG4 Antibody (N-term) (Cat. #AP20303a) western blot analysis in human placenta tissue lysates (35ug/lane). This demonstrates the LIG4 antibody detected the LIG4 protein (arrow).

### LIG4 Antibody (N-term) - Background

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.