

## DNA Ligase IV (Phospho Thr650) Rabbit pAb

CatalogNo: YP1023

### Key Features

#### Host Species

- Rabbit

#### Reactivity

- Human, Mouse, Rat

#### Applications

- IHC, IF, ELISA

#### MW

- 104kD (Calculated)

#### Isotype

- IgG

### Storage

**Storage\*** -15°C to -25°C/1 year (Do not lower than -25°C)

**Formulation** Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.

### Recommended Dilution Ratios

**IHC 1:100-1:300**

**ELISA 1:10000**

**IF 1:50-200**

### Basic Information

**Clonality** Polyclonal

### Immunogen Information

**Immunogen** The antiserum was produced against synthesized peptide derived from human DNA Ligase 4 around the phosphorylation site of Thr650. AA range:616-665

**Specificity** Phospho-DNA Ligase IV (T650) Polyclonal Antibody detects endogenous levels of DNA Ligase IV protein only when phosphorylated at T650. The name of modified sites may be influenced by many factors, such as species (the modified site was not originally found in human samples) and the change of protein sequence (the previous protein sequence is incomplete, and the protein sequence may be prolonged with the development of protein sequencing technology). When naming, we will use the "numbers" in historical reference to keep the sites consistent with the reports. The antibody binds to the following modification sequence (lowercase letters are modification sites):NLtNV

## Target Information

**Gene name** LIG4

**Protein Name** DNA ligase 4

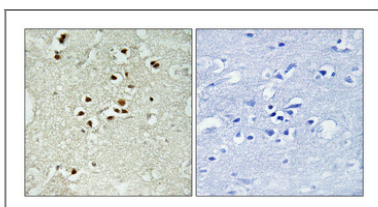
Organism	Gene ID	UniProt ID
Human	<a href="#">3981</a> ;	<a href="#">P49917</a> ;
Mouse		<a href="#">Q8BTF7</a> ;

**Cellular Localization** Nucleus .

**Tissue specificity** Testis , thymus , prostate and heart.

**Function** Catalytic activity:ATP + (deoxyribonucleotide) (n) + (deoxyribonucleotide) (m) = AMP + diphosphate + (deoxyribonucleotide) (n+m) . ,cofactor:Magnesium. ,Disease:Defects in LIG4 are a cause of severe combined immunodeficiency autosomal recessive T-cell-negative/B-cell-negative/NK-cell-positive with sensitivity to ionizing radiation (RSCID) [MIM:602450]. SCID refers to a genetically and clinically heterogeneous group of rare congenital disorders characterized by impairment of both humoral and cell-mediated immunity , leukopenia , and low or absent antibody levels. Patients with SCID present in infancy with recurrent , persistent infections by opportunistic organisms. The common characteristic of all types of SCID is absence of T-cell-mediated cellular immunity due to a defect in T-cell development. Individuals affected by RS-SCID show defects in the DNA repair machinery necessary for coding joint formation and the completion of V (D) J recombination. A subset of cells from such patients show increased radiosensitivity. ,Disease:Defects in LIG4 are the cause of LIG4 syndrome [MIM:606593]. This disease is characterized by immunodeficiency and developmental and growth delay. Patients display unusual facial features , microcephaly , growth and/or developmental delay , pancytopenia , and various skin abnormalities. ,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. ,online information:DNA ligase entry ,online information:LIG4 mutation db ,similarity:Belongs to the ATP-dependent DNA ligase family. ,similarity:Contains 2 BRCT domains. ,subunit:Binds to XRCC4. The LIG4-XRCC4 complex has probably a 1:2 stoichiometry. The LIG4-XRCC4 heteromer associates in a DNA-dependent manner with the DNA-dependent protein kinase complex DNA-PK , formed by the Ku p70/p86 dimer (G22P1/G22P2) and PRKDC. ,tissue specificity:Testis , thymus , prostate and heart. ,

## Validation Data



Immunohistochemical analysis of paraffin-embedded Human brain. Antibody was diluted at 1:100 (4°C overnight). High-pressure and temperature Tris-EDTA,pH8.0 was used for antigen retrieval. Negative control (right) obtained from antibody was pre-absorbed by immunogen peptide.

## | Contact information

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Please scan the QR code  
to access additional  
product information:  
**DNA Ligase IV  
(Phospho Thr650)  
Rabbit pAb**

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For Research Use Only. Not for Use in Diagnostic Procedures.

[Antibody](#) | [ELISA Kits](#) | [Protein](#) | [Reagents](#)