

## DNA Ligase IV Polyclonal Antibody

<b>Catalog No :</b>	YT1367
<b>Reactivity :</b>	Human;Rat;Mouse;
<b>Applications :</b>	WB;IHC;IF;ELISA
<b>Target :</b>	DNA Ligase IV
<b>Fields :</b>	>>Non-homologous end-joining
<b>Gene Name :</b>	LIG4
<b>Protein Name :</b>	DNA ligase 4
<b>Human Gene Id :</b>	3981
<b>Human Swiss Prot No :</b>	P49917
<b>Mouse Swiss Prot No :</b>	Q8BTF7
<b>Immunogen :</b>	The antiserum was produced against synthesized peptide derived from human DNL4. AA range:591-640
<b>Specificity :</b>	DNA Ligase IV Polyclonal Antibody detects endogenous levels of DNA Ligase IV protein.
<b>Formulation :</b>	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
<b>Source :</b>	Polyclonal, Rabbit,IgG
<b>Dilution :</b>	WB 1:500 - 1:2000. IHC 1:100 - 1:300. IF 1:200 - 1:1000. ELISA: 1:20000. Not yet tested in other applications.
<b>Purification :</b>	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
<b>Concentration :</b>	1 mg/ml

---

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

---

**Observed Band :** 103kD

---

**Cell Pathway :** Non-homologous end-joining;

---

**Background :**

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. [provided by RefSeq, Jul 2008],

---

**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

---

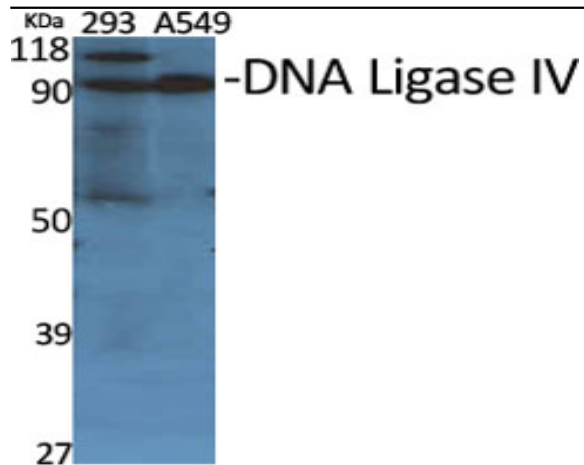
**Subcellular Location :** Nucleus .

---

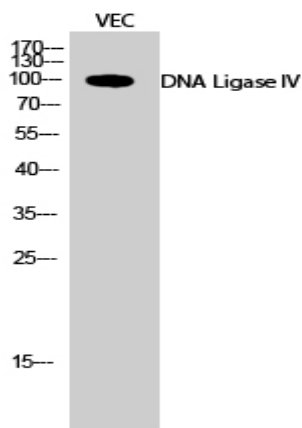
**Expression :** Testis, thymus, prostate and heart.

---

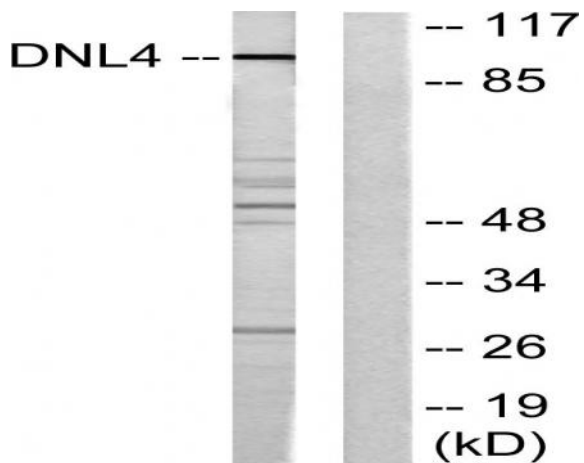
## Products Images



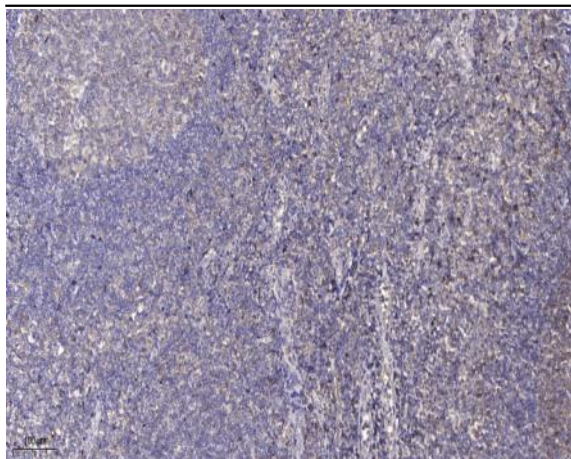
Western Blot analysis of various cells using DNA Ligase IV  
 Polyclonal Antibody diluted at 1:500



Western Blot analysis of VEC cells using DNA Ligase IV  
 Polyclonal Antibody diluted at 1:500



Western blot analysis of lysates from Jurkat cells, using DNL4  
 Antibody. The lane on the right is blocked with the synthesized  
 peptide.



Immunohistochemical analysis of paraffin-embedded human tonsil. 1, Antibody was diluted at 1:200(4° overnight). 2, Tris-EDTA,pH9.0 was used for antigen retrieval. 3,Secondary antibody was diluted at 1:200(room temperature, 45min).