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DNA Ligase 4 Antibody
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP51318

Specification

DNA Ligase 4 Antibody - Product Information

Application	**WB, ICC, IHC-P, E**
Primary Accession	P49917
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Calculated MW	**96 KDa**

DNA Ligase 4 Antibody - Additional Information

Gene ID 3981

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

Dilution
WB~~1:1000
ICC~~N/A
IHC-P~~N/A
E~~N/A

Format
0.01M PBS, pH 7.2, 0.09% (W/V) Sodium azide, Glycerol 50%

Storage
Store at -20 °C.Stable for 12 months from date of receipt

DNA Ligase 4 Antibody - 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:12517771, PubMed:17290226, PubMed:23523427, PubMed:29980672, PubMed:33586762, PubMed:8798671, PubMed:9242410, PubMed:9809069). Catalyzes the NHEJ ligation step of the broken DNA during DSB repair by resealing the DNA breaks after the gap

filling is completed (PubMed:12517771, PubMed:17290226, PubMed:9242410, PubMed:9809069). Joins single-strand breaks in a double-stranded polydeoxynucleotide in an ATP-dependent reaction (PubMed:12517771, PubMed:17290226, PubMed:9242410, PubMed:9809069). 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.

DNA Ligase 4 Antibody - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

DNA Ligase 4 Antibody - Images

DNA Ligase 4 Antibody - 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.

DNA Ligase 4 Antibody - References

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Dunham A.,et al.Nature 428:522-528(2004).
Robins P.,et al.J. Biol. Chem. 271:24257-24261(1996).
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