

**Product Name: DNA Ligase IV (18K10) Rabbit
Monoclonal Antibody
Catalog #: AMRe10049**

Summary

Production Name	DNA Ligase IV (18K10) Rabbit Monoclonal Antibody
Description	Rabbit Monoclonal Antibody
Host	Rabbit
Application	WB
Reactivity	Human

Performance

Conjugation	Unconjugated
Modification	Unmodified
Isotype	IgG
Clonality	Monoclonal
Form	Liquid
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.
Buffer	Supplied in 50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40%Glycerol, 0.01% New type preservative N and 0.05% BSA.
Purification	Affinity purification

Immunogen

Gene Name	LIG4 {ECO:0000303 PubMed:16357942, ECO:0000312 HGNC:HGNC:6601}
Alternative Names	DNA joinase; DNA ligase 4; DNA ligase IV; DNA repair enzyme; LIG4; LIG4S; Ligase IV;
Gene ID	3981.0
SwissProt ID	P49917.Recombinant protein of human DNA Ligase IV

Application

Dilution Ratio	WB: 1:1000
Molecular Weight	104kDa

Background

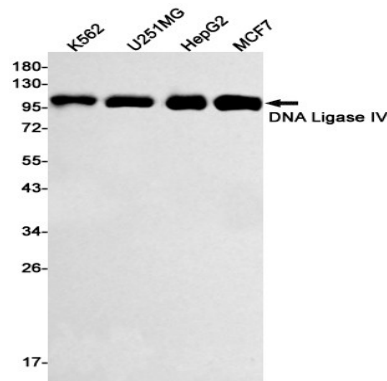
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Efficiently joins single-strand breaks in a double-stranded polydeoxynucleotide in an ATP-dependent reaction. Involved in DNA non-homologous end joining (NHEJ) required for double-strand break repair and V(D)J recombination. DNA ligase involved in DNA non-homologous end joining (NHEJ); required for double-strand break (DSB) repair and V(D)J recombination (PubMed: [8798671](http://www.uniprot.org/citations/8798671) , PubMed: [9242410](http://www.uniprot.org/citations/9242410) , PubMed: [9809069](http://www.uniprot.org/citations/9809069) , PubMed: [12517771](http://www.uniprot.org/citations/12517771) , PubMed: [17290226](http://www.uniprot.org/citations/17290226)). 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](http://www.uniprot.org/citations/9242410) , PubMed: [9809069](http://www.uniprot.org/citations/9809069) , PubMed: [12517771](http://www.uniprot.org/citations/12517771) , PubMed: [17290226](http://www.uniprot.org/citations/17290226)). Joins single-strand breaks in a double-stranded polydeoxynucleotide in an ATP-dependent reaction (PubMed: [9242410](http://www.uniprot.org/citations/9242410) , PubMed: [9809069](http://www.uniprot.org/citations/9809069) , PubMed: [12517771](http://www.uniprot.org/citations/12517771) , PubMed: [17290226](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/9242410) , PubMed: [9809069](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/10854421)). LIG4 regulates nuclear localization of XRCC4 (PubMed: [24984242](http://www.uniprot.org/citations/24984242)).

Research Area

Image Data

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Western blot detection of DNA Ligase IV in K562,U251MG,HepG2,MCF7 cell lysates using DNA Ligase IV antibody(1:500 diluted).

Note

For research use only.