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

Specification

LIG4 Antibody (N-term) - Product Information

Application	**WB,E**
Primary Accession	P49917
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

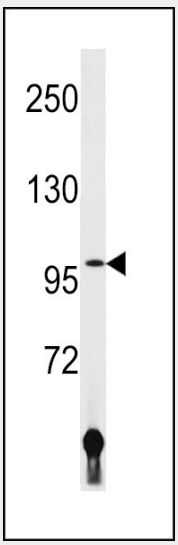
Tissue Location
Testis, thymus, prostate and heart.

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 Cytomety
- 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.