

Rabbit anti-Human DNA Ligase IV/LIG4 Polyclonal Antibody | anti-LIG4 antibody

Anti-DNA Ligase IV/LIG4 Antibody Picoband

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA127077	Rabbit	Human	ELISA, Flow Cytometry, Functional Assay, Immunofluorescence, Immunocytochemistry, Western Blot

PRODUCT SYNONYMS

DNA Ligase IV/LIG4; Polyclonal Antibody; Anti-DNA Ligase IV/LIG4 Antibody Picoband; Carboxypeptidase M; melanoma cell adhesion molecule; Cell surface glycoprotein MUC18; Gicerin; Melanoma cell adhesion molecule; Melanoma-associated antigen MUC18; CD146; Mcam; Muc18; anti-LIG4 antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Isotype	Rabbit IgG
Specificity	Detected in melanoma cell lines.
Purity/Purification	Immunogen affinity purified.
Form/Format	Lyophilized. Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na ₂ HPO ₄ .
Applicable Applications for anti-LIG4 antibody	ELISA, FCM/FACS (Flow Cytometry), IF (Immunofluorescence), ICC (Immunocytochemistry), WB (Western Blot)
Immunogen	E coli-derived human DNA Ligase IV/LIG4 recombinant protein (Position: M1-K876).
Subcellular Localization	Membrane. Single-pass type I membrane protein
Reconstitution	Adding 0.2 ml of distilled water will yield a concentration of 500ug/ml.
Cross Reactivity	No cross-reactivity with other proteins.
Protein Function	Plays a role in cell adhesion, and in cohesion of the endothelial monolayer at intercellular junctions in vascular tissue. Its expression may allow melanoma cells to interact with cellular elements of the vascular system, thereby enhancing hematogeneous tumor spread. Could be an adhesion molecule active in neural crest cells during embryonic development. Acts as surface receptor that triggers tyrosine phosphorylation of FYN and PTK2/FAK1, and a transient increase in the intracellular calcium concentration.
Preparation and Storage	At -20 degree C for one year from date of receipt. After reconstitution, at 4 degree C for one month. It can also be aliquotted and stored frozen at -20 degree C for six months.Avoid repeated freezing and thawing.



FCM/FACS (Flow Cytometry)

Figure 3. Flow Cytometry analysis of U937 cells using anti-DNA Ligase IV/LIG4 antibody (AAA127077).Overlay histogram showing U937 cells stained with AAA127077 (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-DNA Ligase IV/LIG4 Antibody (AAA127077, 1ug/1x106 cells) for 30 min at 20 degree C. DyLight488 conjugated goat anti-rabbit IgG was used as secondary antibody for 30 minutes at 20 degree C. Isotype control antibody (Green line) was rabbit IgG (1ug/1x106) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



WB (Western Blot)

Figure 1. Western blot analysis of DNA Ligase IV/LIG4 using anti-DNA Ligase IV/LIG4 antibody (AAA127077).Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel)/90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.Lane 1: human Ramos whole cell lysates,Lane 2: human HepG2 whole cell lysates.After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-DNA Ligase IV/LIG4 antigen affinity purified polyclonal antibody (#AAA127077) at 0.5ug/mL overnight at 4 degree C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit with Tanon 5200 system. A specific band was detected for DNA Ligase IV/LIG4 at approximately 104 kDa. The expected band size for DNA Ligase IV/LIG4 is at 104 kDa.



IF (Immunofluorescence)

Figure 2. IF analysis of DNA Ligase IV/LIG4 using anti-DNA Ligase IV/LIG4 antibody (AAA127077) and anti-Tubulin Alpha antibody (M03989-3).DNA Ligase IV/LIG4 was detected in immunocytochemical section of Hela cell. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5ug/mL rabbit anti-DNA Ligase IV/LIG4 Antibody (AAA127077) and mouse anti-Tubulin Alpha antibody (M03989-3) overnight at 4 degree C. Cy3 Conjugated Goat Anti-Rabbit IgG (BA1032) and DyLight488 Conjugated Goat Anti-Mouse IgG (BA1126) were used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37 degree C. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

ADDITIONAL INFORMATION

Related Product Information for anti-LIG4 antibody	The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Product Categories/Family for anti-LIG4 antibody	Primary Antibodies; Adapters; Signal Transduction; Transmembrane
References	1. Ben-Omran, T. I., Cerosaletti, K., Concannon, P., Weitzman, S., Nezarati, M. M. A patient with mutations in DNA ligase IV: clinical features and overlap with Nijmegen breakage syndrome. Am. J. Med. Genet. 137A: 283-287, 2005. 2. Frank, K. M., Sekiguchi, J. M., Seidl, K. J., Swat, W., Rathbun, G. A., Cheng, H.-L., Davidson, L., Kangaloo, L., Alt, F. W. Late embryonic lethality and impaired V(D)J recombination in mice lacking DNA ligase IV. Nature 396: 173-177, 1998. 3. Frank, K. M., Sharpless, N. E., Gao, Y., Sekiguchi, J. M., Ferguson, D. O., Zhu, C., Manis, J. P., Horner, J., DePinho, R. A., Alt, F. W. DNA ligase IV deficiency in mice leads to defective neurogenesis and embryonic lethality via the p53 pathway. Molec. Cell 5: 993-1002, 2000.

NCBI AND UNIPROT INFORMATION

NCBI GI #	148539894
NCBI GeneID	3981
NCBI Accession #	NP_001091738.1
NCBI GenBank Nucleotide #	NM_001098268.1
UniProt Accession #	P49917; Q8IY66; Q8TEU5

Molecular Weight	103,971 Da
NCBI Official Full Name	DNA ligase 4
NCBI Official Synonym Full Names	ligase IV, DNA, ATP-dependent
NCBI Official Symbol	LIG4
NCBI Protein Information	DNA ligase 4; sealase; DNA joinase; DNA ligase IV; DNA repair enzyme; polynucleotide ligase; polydeoxyribonucleotide synthase [ATP] 4
UniProt Protein Name	DNA ligase 4
UniProt Gene Name	LIG4
UniProt Entry Name	DNLI4_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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