

Product Name: KD-Validated DNA Ligase 4 Recombinant Rabbit Monoclonal Antibody
Catalog #: KVAb01515

For research use only.

Summary

Description	KO&KD-Validated antibody
Host	Rabbit
Application	WB,FCM,ICC
Reactivity	Human
Conjugation	Unconjugated
Modification	Unmodified
Isotype	Rabbit IgG
Clonality	Rabbit mAb
Form	Liquid
Storage	Aliquot and store at -20°C (valid for 12 months). Avoid freeze/thaw cycles.
Shipping	Ice bags
Buffer	Supplied in PBS (pH 7.4) containing 50% glycerol, and 0.02% sodium azide.
Purification	Affinity purification

Application

Dilution Ratio	WB 1:1,000-1:5,000; FC 1:200-1:2,000; ICC 1:100-1:1,000
Molecular Weight	Calculated MW: 104.0kDa

Antigen Information

Gene Name	LIG4
Alternative Names	LIG4; DNA Ligase 4; Polydeoxyribonucleotide Synthase [ATP] 4; DNA Ligase IV; Ligase IV, DNA, ATP-Dependent; Polynucleotide Ligase; DNA Repair Enzyme; DNA Joinase; EC 6.5.1.1; Sealase; LIG4S
Gene ID	3981.0
SwissProt ID	P49917
Immunogen	A synthesized peptide derived from human DNA Ligase IV

Background

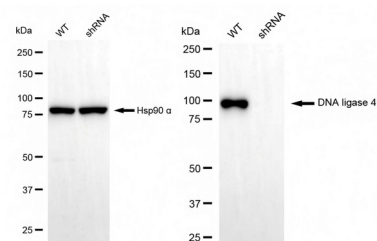
The protein encoded by this gene is a DNA ligase that joins single-strand breaks in a double-stranded polydeoxynucleotide in an ATP-dependent reaction. This protein is essential for V(D)J recombination and DNA double-strand break (DSB) repair

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]

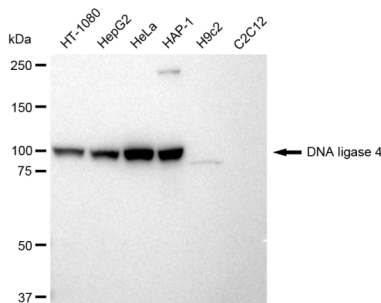
Research Area

Epigenetics and Nuclear Signaling

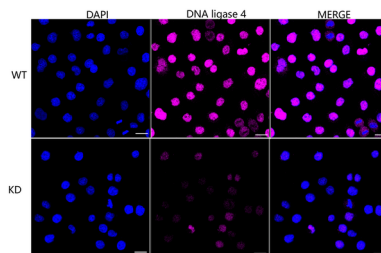
Image Data



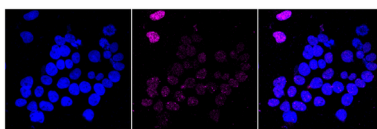
Western blotting analysis using DNA ligase 4 antibody (KVA01515). DNA ligase 4 expression in wild type (WT) and DNA ligase 4 shRNA knockdown (KD) HeLa cells with 30 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with DNA ligase 4 antibody (KVA01515, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody (APS0635, 1:10,000) respectively.



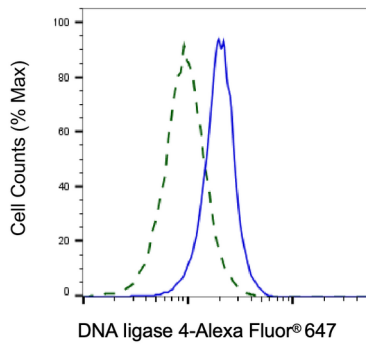
Western blotting analysis using DNA ligase 4 antibody (KVA01515). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with DNA ligase 4 antibody (KVA01515, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody (APS0635, 1:10,000) respectively.



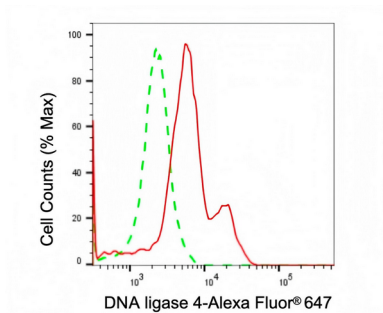
Immunocytochemical staining of HeLa cells using DNA ligase 4 antibody (KVA01515, 1:1,000), Top panel: wild-type (WT); Bottom panel: DNA ligase 4 shRNA knockdown (KD). Nuclei were stained blue with DAPI; DNA ligase 4 was stained magenta with Alexa Fluor® 647. Scale bar, 20 µm. Permeabilization: Triton.



Immunocytochemical staining of HeLa cells with DNA ligase 4 antibody (KVA01515, 1:1,000). Nuclei were stained blue with DAPI; DNA ligase 4 was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Low. Scale bar: 20 µm.



Validation of DNA ligase 4 knockdown using flow cytometry. Wild-type(WT, Blue) and knockdown(KD, Green) HeLa cells were stained with DNA ligase 4 antibody (KVA01515, 1:2,000) and analyzed using BD flow cytometer.



Flow cytometric analysis of DNA ligase 4 expression in HeLa cells using DNA ligase 4 antibody (KVA01515, 1:2,000). Green, isotype control; red, DNA ligase 4.