



Human LIG4 peptide (DAG-P0382)

This product is for research use only and is not intended for diagnostic use.

PRODUCT INFORMATION

Antigen Description	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]
Specificity	Testis, thymus, prostate and heart.
Purity	70 - 90% by HPLC.
Conjugate	Unconjugated
Sequence Similarities	Belongs to the ATP-dependent DNA ligase family. Contains 2 BRCT domains.
Format	Liquid
Preservative	None
Storage	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles. Information available upon request.

GENE INFORMATION

Gene Name [LIG4 ligase IV, DNA, ATP-dependent \[Homo sapiens \(human\) \]](#)

Official Symbol LIG4

Synonyms	LIG4; ligase IV, DNA, ATP-dependent; DNA ligase 4; sealase; DNA joinase; DNA ligase IV; DNA repair enzyme; polynucleotide ligase; polydeoxyribonucleotide synthase [ATP] 4;
Entrez Gene ID	3981
mRNA Refseq	NM_001098268.1
Protein Refseq	NP_001091738.1
UniProt ID	P49917
Chromosome Location	13q33-q34
Pathway	2-LTR circle formation, organism-specific biosystem; DNA Repair, organism-specific biosystem; Disease, organism-specific biosystem; Double-Strand Break Repair, organism-specific biosystem; Early Phase of HIV Life Cycle, organism-specific biosystem; HIV Infection, organism-specific biosystem; HIV Life Cycle, organism-specific biosystem; Integration of provirus, organism-specific biosystem; Non-homologous end-joining, organism-specific biosystem; Non-homologous end-joining, conserved biosystem; No
Function	ATP binding; DNA binding; DNA ligase (ATP) activity; DNA ligase activity; DNA ligase activity; ligase activity; metal ion binding; protein C-terminus binding; protein binding;
