

Product datasheet for **SC118710**

DNA Ligase IV (LIG4) (NM_002312) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	DNA Ligase IV (LIG4) (NM_002312) Human Untagged Clone
Tag:	Tag Free
Symbol:	DNA Ligase IV
Synonyms:	LIG4S
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL5</u>
E. coli Selection:	Ampicillin (100 ug/mL)



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Fully Sequenced ORF: >OriGene ORF within SC118710 sequence for NM_002312 edited (data generated by NextGen Sequencing)

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ATGGCTGCCTCACAACTTCACAAATTGTTGCATCTCACGTTCTTTTGCAGATTTGTG
TCAACTTTAGAACGAATACAGAAAAGTAAAGGACGTGCAGAAAAATCAGACACTTCAGG
GAATTTTTAGATTCTTGGAGAAAATTCATGATGCTCTTCATAAGAACCACAAAGATGC
ACAGACTCTTTTTATCCAGCAATGAGACTAATTTCTCCTCAGCTAGAAAGAGAGAGAATG
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ACTTTTAAAGAAAAGTTTAAAATCCTAAAAGAAAGTTGGGTAACCTGATTCAATAGACAAG
TGTGAATTACAAGAAGAAAACCAGTATTTGATTTAA

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Clone variation with respect to NM_002312.3
26 c=>t

5' Read Nucleotide Sequence:	<pre>>OriGene 5' read for NM_002312 unedited TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGGCACGAGGCCTGGAAGTGTAT TGCTGCTTTACCTGCGTACATGTTGATTCTTTCTCATGGCAACCCCGCAGGAAACCATC AAGATCTCATTTTACAGCTGGGATTCTCTGGTTACAGAGGTAACGGAGCTTGCCCGAGG CCAGTTAAACGAGAAGATTCATCACCGCTTTGATGGCTGCCTCACAACTTCACAAATTG TTGCATCTCACGTTCTTTTGCAGATTTGTGTTCAACTTTAGAACGAATACAGAAAAGTA AAGGACGTGCAGAAAAAATCAGACACTTCAGGGAATTTTTAGATTCTTGGAGAAAATTTTC ATGATGCTCTTCATAAGAACCACAAAGATGTCACAGACTCTTTTTATCCAGCAATGAGAC TAATTCTTCTCAGCTAGAAAGAGAGAGAATGGCCTATGGAATTAAGAAACTATGCTTG CTAAGCTTTATATTGAGTTGCTTAATTTACCTAGAGATGGAAAAGATGCCCTCAAATTTT TAAACTACAGAACCCCACTGGAATCATGGAGATGCTGGAGACTTTGCAATGATTGCAT ATTTTGTGTTGAAGCCAAGATGTTTACAGAAAGGAAGTTAAACCATACAGCAAGTAAACG ACCTTTTAGACTCAATTGCCAGCAATAATTCTGCTAAAAGAAAAGACCTAATAAAAAAGA GCCTTCTTCAACTATAACTCAGAGTTCAGCACTTGAGCAAAAAGTGGCTTATACGGGATG ATCATAAAGGATTTAAAGCTTGGNTGTTAGTCAGCAAATCTTTTTCTGTTTTTCATA ATGATGCTGCTGNAGTGATAATGTCACACTACAGATCTGGNAAAAGTCTGTAGGCACTGCA TGATCCT</pre>
3' Read Nucleotide Sequence:	<pre>>OriGene 3' read for NM_002312 unedited ACCGCGGCCGCAATCTAGAGTCGAGTTTTTTTTTTTTTTTTTTTTAATAGTGCATTAATAT TTTATTTAAATTAAGAAGTATAACAAAATCACATACATTTGTTCCACGGTTTGAATAAAA TTTCCAATAACTTTCAAATAATGCACACATAGTATCGCATGGATCAAATTCGGTACATTT CAATATGGTCATGAGATAGGCTGTATTCCAAAATTTGGTATATAAATCCATACATAATAT ATACTATATACATTGACTTTAAATAATCTAACTATGTCATTTTTAAAAGTCAAAGCAACT TATTTCTAATGAAAGTTACAATATGCATGCCATATTGACACCTATTCAATAGATAAAAATC TAGGAAAATCTTTTTGTGAATACTATTATACTGGAATGCAAATTCACATAAAAATACT TCCTTTAAAGCATGTTCTATTTACACACAAGAAATTAATGTGAGCTACTTTTAAATTTGC AAGCTTTATTTTTAATCAAACCAATTCAATTTTAAAGTTTTAGATCATTAAAGTCTCATAC AACTTCTCTAATTTAGCTAAAACCATCGACAGGGTTTTATTGTTACATTTGGCCTTAAC CTTAAAAACAATTTGTTTACATTTTCATTTTAAATGGGACATTTTAAACCCTGAGTAA AAAGACATATTTTTACAAGTCCAGCTGTAACAATTCTACCTATTTTCTTGCAGTGCTTT TATTAGATAAAAACTATTGTTAACGTTTTGACTTTTTAGATATACTGTTTGAAGGTAAT GCTTTTTCATGACTTAAAAGTTTCTAAAGATTTTATAGTATCTAAGTAAAATCTAGATT CTTATGGATATATAAAACACTTCTTTTTAACTGTTATTTACCTGATCTAAAAATATTNG ATCCTCATTGAGATAATTTCTTTTTGCTTGGGCATTGCT</pre>
Restriction Sites:	NotI-NotI
ACCN:	NM_002312
Insert Size:	2736 bp
OTI Disclaimer:	Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
Components:	The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

RefSeq: [NM_002312.3](#), [NP_002303.2](#)

RefSeq Size: 4115 bp

RefSeq ORF: 2736 bp

Locus ID: 3981

UniProt ID: [P49917](#)

Cytogenetics: 13q33.3

Domains: DNA_ligase, BRCT

Protein Families: Druggable Genome

Protein Pathways: Non-homologous end-joining

Gene Summary: 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]

Transcript Variant: This variant (1), as well as variants 2, 3, and 5-10, encodes isoform 1.