

Product datasheet for **SC316278**

DNA Ligase IV (LIG4) (NM_001098268) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	DNA Ligase IV (LIG4) (NM_001098268) Human Untagged Clone
Tag:	Tag Free
Symbol:	LIG4
Synonyms:	LIG4S
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



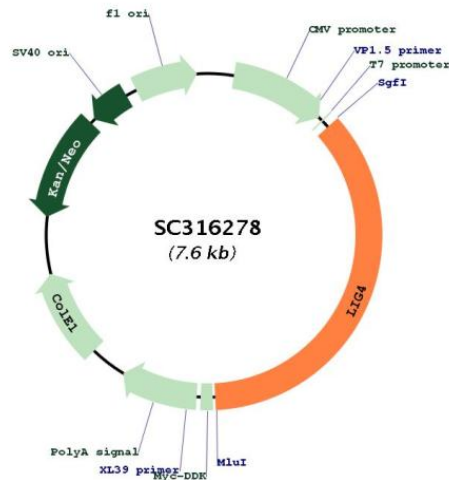
[View online »](#)

Fully Sequenced ORF: >SC316278 representing NM_001098268.
 Blue=Insert sequence Red=Cloning site Green=Tag(s)

```

GCTCGTTTAGTGAACCGTCAGAATTTTGTAAACGACTCACTATAGGGCGGCCGGGAATTCGTGACTG
GATCCGGTACCGAGGAGATCTGCCGCCCGCATCGCC
ATGGCTGCCTCACAACCTCACAACCTGTTGCATCTCACGTTCTTTTGCAGATTTGTGTTCAACTTTA
GAACGAATACAGAAAAGTAAAGGACGTGCAGAAAAATCAGACACTTCAGGGAATTTTATAGATTCTTGG
AGAAAATTTTCATGATGCTCTTCATAAGAACCACAAAGATGTCACAGACTCTTTTTATCCAGCAATGAGA
CTAATTCTTCTCAGCTAGAAAAGAGAGAGAATGGCCTATGGAATTAAGAAACTATGCTTCTAAGCTT
TATATTGAGTTGCTTAATTTACCTAGAGATGGAAGATGCCCTCAAACCTTTAACTACAGAACACCC
ACTGGAACCTCATGGAGATGCTGGAGACTTTGCAATGATTGCATATTTTGTGTTGAAGCCAAGATGTTTA
CAGAAAGGAAGTTAACCATACAGCAAGTAAACGACCTTTAGACTCAATTGCCAGCAATAATTCTGCT
AAAAGAAAAGACCTAATAAAAAAGACCTTCTTCAACTATAACTCAGAGTTCAGCACTTGAGCAAAAG
TGGCTTATACGGATGATCATAAAGGATTTAAAGCTTGGTGTAGTCAGCAAACTATCTTTCTGTTTTT
CATAATGATGCTGCTGAGTTGCATAATGCTACTACAGATCTGAAAAAGTCTGTAGGCAACTGCATGAT
CCTTCTGTAGGACTCAGTGATATTTCTATCACTTATTTTCTGCATTTAAACCAATGCTAGCTGCTATT
GCAGATATTGAGCACATTGAGAAGGATATGAAACATCAGAGTTTCTACATAGAAACCAAGCTAGATGGT
GAACGTATGCAATGCACAAAGATGGAGATGTATAAACTTCTCTCGAAATGGATATAACTACACT
GATCAGTTTGGTGCTTCTCCTACTGAAGTTTCTTACCCATTTCATTAATGCATTCAAAGCAGAT
ATACAAATCTGTATTCTTGATGGTGAGATGATGGCCTATAATCCTAATACACAACTTTCATGCAAAAG
GGAAGTAAAGTTGATATTAAGAAGTGGTAGAGGATCTGATCTGCAACTTGTATTGTGTTTTGAT
GTATTGATGGTTAATAATAAAAAGCTAGGCATGAGACTCTGAGAAAGAGGTATGAGATCTTAGTAT
ATTTTTACACCAATTCAGGTAGAATAGAATAGTGCAGAAAAACAAGCTCATACTAAGAATGAAGTA
ATTGATGCATTGAATGAAGCAATAGATAAAAAGAGAAGAGGGAATTATGGTAAAACAACCTCTATCCATC
TACAAGCCAGACAAAAGAGGTGAAGGGTGGTTAAAAATTAACCAGAGTATGTCAGTGGACTAATGGAT
GAATTGGACATTTAATTGTTGGAGGATATTGGGGTAAAGGATCACGGGGTGAATGATGTCTCATTTT
CTGTGTGCAGTAGCAGAGAAGCCCCCTCCTGGTGAAGAAGCCATCTGTGTTTCATACTCTCTCTGTT
GGGTCTGGCTGCACCATGAAAGAAGTGTATGATCTGGGTTTGAATGGCCAAGTATTGGAAGCCTTTT
CATAGAAAAGCTCCACCAAGCAGCATTTTATGTGGAACAGAGAAGCCAGAAGTATACATTGAACCTGT
AATTCTGTATTGTTTCAAGTAAAGCAGCAGAGATCGTACCCAGTGATATGTATAAACTGGCTGCACC
TTGCGTTTTCCACGAATTGAAAAGATAAGAGATGACAAGGAGTGGCATGAGTGCATGACCCTGGACGAC
CTAGAACAACCTTAGGGGAAGGCATCTGGTAAGCTCGCATCTAACACCTTTATATAGGTGGTGATGAT
GAACCACAAGAAAAAAGCGGAAAGCTGCCCAAGATGAAGAAAGTTATTGGAATTATTGAGCACTTA
AAAGCACCTAACCTTACTAACGTTAACAAAATTTCTAATATATTTGAAGATGTAGAGTTTGTGTTATG
AGTGGAACAGATAGCCAGCCAAAGCCTGACCTGGAGAACAGAATTGCAGAATTTGGTGGTTATATAGTA
CAAAATCCAGGCCAGACACGTAAGTGTCAAGGCTGAGAACATCAGAGTGAAAAACATAAATT
TTGTCAAATAACATGATGTTGTCAAGCCTGCATGGCTTTTGAATGTTTTAAGACCAAAAGCTTTGTA
CCATGGCAGCCTCGCTTTATGATTCATATGTGCCATCAACCAAGAACATTTGCCCGTGAATATGAT
TGCTATGGTGATAGTTATTTCAATTGATACAGACTTGAACCAACTGAAGGAAGTATTCTCAGGAATTA
AATTCTAACGAGCAGACTCCTGAAGAAATGGCTTCTCTGATTGCTGATTTAGAATATCGGTATTCCTGG
GATTGCTCTCCTCAGTATGTTTCGACGCCACACCGTTTATTTGGACTCGTATGCTGTTATTAATGAC
CTGAGTACCAAAAATGAGGGGACAAGGTTAGCTATTAAGCCTTGGAGCTTCGGTTTCATGGAGCAAAA
GTAGTTTCTTGTAGCTGAGGGAGTGTCTCATGTAATAATTGGGGAAGATCATAGTCGTGTTGCAGAT
TTTAAAGCTTTTGAAGAAGCTTTAAGAGAAAGTTTAAATCCTAAAAGAAAGTTGGGTAAGTATTCA
ATAGACAAGTGTGAATTACAAGAAGAAAACAGTATTTGATTTAA
ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGAT
TACAAGGATGACGACGATAAGGTTTAAACGGCCGCGC
  
```

Restriction Sites: Sgfl-Mlul

Plasmid Map:


ACCN: NM_001098268

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).

OTI Annotation: This TrueClone is provided through our Custom Cloning Process that includes sub-cloning into OriGene's pCMV6 vector and full sequencing to provide a non-variant match to the expected reference without frameshifts, and is delivered as lyophilized plasmid DNA.

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_001098268.1](#)

RefSeq Size: 4077 bp

RefSeq ORF: 2736 bp

Locus ID: 3981

UniProt ID: [P49917](#)

Cytogenetics: 13q33.3

Protein Families:	Druggable Genome
Protein Pathways:	Non-homologous end-joining
MW:	104 kDa
Gene Summary:	<p>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]</p> <p>Transcript Variant: This variant (3) differs in the 5' UTR, compared to variant 1. Variants 1-3 and 5-10 all encode the same isoform (1).</p>