

Product datasheet for **RG209530**

DNA Ligase III (LIG3) (NM_013975) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	DNA Ligase III (LIG3) (NM_013975) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	DNA Ligase III
Synonyms:	LIG2; LIG3alpha
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG209530 representing NM_013975 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGTCTTTGGCTTCAAGATCTTCTTTCCACAAACCTCCGTGCACTCAGCCGAAAAGAACTGTGCCTAT
TCCGAAAACATCACTGGCGTGATGTAAGACAATTCAGCCAGTGGTCAGAAACAGATCTGCTTCATGGACA
TCCCCTCTTCTGAGAAGAAAGCCTGTTCTATCATTCCAGGGAAGCCATCTAAGATCACGTGCCACCTAC
CTTGTTTTCTTGGCAGGGTTGCATGTGGGACTCTGCAGTGGCCCTGTGAGATGGCTGAGCAACGGTCT
GTGTGGACTATGCCAAGCGTGGCACAGCTGGCTGCAAAAAATGCAAGGAAAAGATTGTGAAGGGCGTATG
CCGAATTGGCAAAGTGGTGCCCAATCCCTTCTCAGAGTCTGGGGTGATATGAAAGAGTGGTACCACATT
AAATGCATGTTTGAGAACTAGAGCGGGCCCGGGCCACCACAAAAAAATCGAGGACCTCACAGAGCTGG
AAGGCTGGGAAGAGCTGGAAGATAATGAGAAGGAACAGATAACCCAGCACATTGCAGATCTGTCTTCTAA
GGCAGCAGGTACACCAAAGAAGAAAGCTGTTGTCCAGGCTAAGTTGACAACCACTGGCCAGGTGACTTCT
CCAGTGAAAGGCGCCTCATTGTACCAGTACCAATCCCCGAAATTTTCTGGCTTTTTCAGCAAGCCCA
ACAACCTGGGGAAGCCCCCTCGAGCCCCACCCCTAAGAGAAGTCTGTCTTCAAGCAAATGTGACCCAG
GCATAAGGACTGTCTGCTACGGGAGTTTCGAAAGTTATGCGCCATGGTGGCCGATAATCCTAGCTACAAC
ACGAAGACCCAGATCATCCAGGACTTCTTCCGAAAGGCTCAGCAGGAGATGGTTTCCACGGTGATGTGT
ACCTAACAGTGAAGCTGCTGCTGCCAGGAGTCATTAAGACTGTTTACAACCTTGAACGATAAGCAGATTGT
GAAGCTTTTTCAGTCGCATTTTTAACTGCAACCCAGATGATATGGCACGGGACCTAGAGCAGGGTGACGTG
TCAGAGACAATCAGAGTCTTCTTTGAGCAGAGCAAGTCTTTCCCCCAGCTGCCAAGAGCCTCCTTACCA
TCCAGGAAGTGGATGAGTTCCTTCTGCGGCTGTCCAAGCTCACCAAGGAGGATGAGCAGCAACAGGCCCT
ACAGGACATTGCCTCCAGGTGTACAGCCAATGACCTTAAATGCATCATCAGGTTGATCAAACATGATCTG
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CGCGCAACCTGCAGGATGTGGTGGAGCGGGTCTTCAACAACGCGCAGGAGGTGGAGAAGGAGCCGGGCCA
GAGACGAGCTCTGAGCGTCCAGGCTCGCTGATGACACCTGTGCAGCCCATGTTGGCGGAGCGCTGCAAG



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TCCGTTGAGTATGCAATGAAGAAATGTCCCAATGGCATGTTCTCTGAGATCAAGTACGATGGAGAGCGAG
 TCCAGGTGCATAAGAATGGAGACCACTTCAGCTACTTCAGCCGCAGTCTCAAGCCCGTCTTCTCACAA
 GGTGGCCCACTTTAAGGACTACATTCGCCAGGCTTTTCTGGGGCCACAGCATGATCTTGGATTCTGAA
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 GCACAGTCACCAAGTGTGCAGGAGGCCATGATGATGCCACGCTTGCCCGCTGCAGAATGAACTAGACAT
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 TTCATCGTCCCAGACCCAAAGAAAGCTGCCGTGTGGGAGATCACAGGGGCTGAATTCCTCAAATCGGAGG
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 CAACAGCAAAGATGGCAACATGCAGACTGCAAAGCCTTCCGCTATGAAGGTGGGGGAGAAGCTGGCCACA
 AAGTCTTCTCCAGTGAAGTAGGGGAGAAGCGGAAAGCTGCTGATGAGACGCTGTGCCAAACAAAGGTAT
 TGCTGGACATCTTCACTGGGGTGCAGCTTACTTGGCACCTCCACACCAGACTTCAAGCCGCTCAGACG
 CTACTTTGTGGCATTGACGGGGACCTGGTACAGGAATTTGATATGACTTCAGCCACGCAGTGTGGGT
 AGCAGGGACAAGAACCCTGCGGCCAGCAGGTCTCCCAGAGTGGATTTGGGCATGTATCCGAAACGGA
 GACTGGTAGCTCCCTGC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>RG209530 representing NM_013975
 Red=Cloning site Green=Tags(s)

MSLAFKIFFPQTLRALSRKELCLFRKHHRDVRQFSQWSETDLLHGHPFLRRKPVLSFQGSHLRSRATY
 LVFLPGLHVGLCSGPEMAEQRFVDYAKRGTAGCKKCKEKIVKGVCRIGKVVVNPFSSESGDMKEWYHI
 KCMFEKLERARATTKIEDLTELEGWEELEDNEKEQITQHIADLSSKAAGTPKKKAVVQAKLTTTGGQVTS
 PVKGASFVTSTNPRKFSGFSAKPNSGEAPSSPTPKRSLSSSKCDPRHKDCLLREFRKLKAMVADNPSYN
 TKTQIIQDFLRKGSAGDGFHGDVYLVKLLPGVIKTVYNLNDKQIVKLSRIFNCPDDMARDLEQGDV
 SETIRVFFEQSKSFPPAAKSLTIQEVDEFLLRLSKLTKEDEQQALQDIASRCTANDLKCIIRLIKHDL
 KMNSGAKHVLDALDPNAYEAFKASRNLDVVERVLHNAQEVEKEPGRRALSVQASLMTVPQPLAEACK
 SVEYAMKKCPNGMFSEIKYDGERVQVHKNGDHFYFSRSLKPVLPKHVAHFKDYIPQAFPGGHSMLDSE
 VLLIDNKTGKPLPFGTLGVHKAQAFQDANVCLFVFDICIYFNDVSLMDRPLCERRKFLHDNMVEIPNRIMF
 SEMKRVTKALDLADMITRVIQEGLEGLVLKDVKGTYPGKRHWLKVKKDYLNNEGAMADTADLVVLGAFYQ
 QGSKGMMSIFLMGICYDPSQKWCVTVKCAGGHDDATLARLQNELDMVKISKDPSKIPSWLVKNKIYYPD
 FIVPDPKKAAVWEITGAEFKSEAHADGSIIRFPRCTRIRDDKDWKSATNLPQLKELYQLSKEADFTV
 VAGDEGSSTTGGSSSEENKGPSGSAVSRKAPSKPSASTKKAEGKLSNSNSKDGNMQTAKPSAMKVGEKLAT
 KSSPVKVGKRAADELTCQTKVLLDIFTGVRLYLPSTPDFSRLRRYFVAFDGDLVQEFDMTSATHVLG
 SRDKNPAQQVSPewiwacIRKRRLVAPC

TRTRPLE - GFP Tag - V

Restriction Sites:

Sgfl-Mlul

Cloning Scheme:



ACCN: NM_013975

ORF Size: 3027 bp

OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

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_013975.4](#)

RefSeq Size: 3701 bp

RefSeq ORF: 3030 bp

Locus ID: 3980

UniProt ID: [P49916](#)

Cytogenetics: 17q12

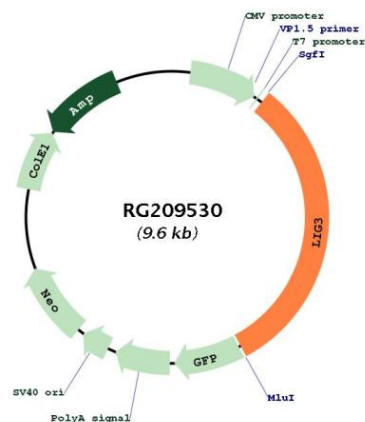
Domains: DNA_ligase, BRCT, zf-PARP

Protein Families: Druggable Genome

Protein Pathways: Base excision repair

Gene Summary: This gene is a member of the DNA ligase family. Each member of this family encodes a protein that catalyzes the joining of DNA ends but they each have a distinct role in DNA metabolism. The protein encoded by this gene is involved in excision repair and is located in both the mitochondria and nucleus, with translation initiation from the upstream start codon allowing for transport to the mitochondria and translation initiation from a downstream start codon allowing for transport to the nucleus. Additionally, alternate transcriptional splice variants, encoding different isoforms, have been characterized. [provided by RefSeq, Jul 2008]

Product images:



Circular map for RG209530