

## Product datasheet for **KN304521LP**

### Dgat2 Mouse Gene Knockout Kit (CRISPR)

#### Product data:

**Product Type:** Knockout Kits (CRISPR)  
**Format:** 2 gRNA vectors, 1 Luciferase-Puro donor, 1 scramble control  
**Donor DNA:** Luciferase-Puro  
**Symbol:** Dgat2  
**Locus ID:** 67800  
**Components:** **KN304521G1**, Dgat2 gRNA vector 1 in pCas-Guide CRISPR vector (GE100002)  
**KN304521G2**, Dgat2 gRNA vector 2 in pCas-Guide CRISPR vector (GE100002)  
**KN304521LPD**, donor DNA containing left and right homologous arms and Luciferase-Puro functional cassette.

Homologous arm and Luciferase-Puro sequences:

pUC vector backbone in gray; **Left arm sequence in blue**; **Luciferase-Puro in green**; **Right arm in violet**

```
AAGGCGAGTT ACATGATCCC CCATGTTGTG CAAAAAGCG GTTAGCTCCT TCGGTCCTCC GATCGTTGTC
AGAAGTAAGT TGGCCGAGT GTTATCACTC ATGGTTATGG CAGCACTGCA TAATTCTCTT ACTGTCAATGC
CATCCGTAAG ATGCTTTTCT GTGACTGGTG AGTACTCAAC CAAGTCATTC TGAGAATAGT GTATGCGGCG
ACCGAGTTGC TCTTGCCCGG CGTCAATACG GGATAATACC GCGCCACATA GCAGAACTTT AAAAGTGCTC
ATCATTGGAA AACGTTCTTC GGGGCGAAAA CTCTCAAGGA TCTTACCCTT GTTGAGATCC AGTTCGATGT
AACCCACTCG TGCACCCAAC TGATCTTCAG CATCTTTTAC TTTACCAGC GTTTCTGGGT GAGCAAAAAAC
AGGAAGGCAA AATGCCGCAA AAAAGGGAAT AAGGGCGACA CGGAAATGTT GAATACTCAT ACTCTTCCTT
TTTCAATATT ATTGAAGCAT TTATCAGGT TATTGTCTCA TGAGCGGATA CATATTTGAA TGTATTTAGA
AAAATAACA AATAGGGGTT CCGCGCACAT TTCCCCGAAA AGTGCCACCT GACGTCTAAG AAACCATTAT
TATCATGACA TTAACCTATA AAAATAGGCG TATCACGAGG CCTTTTCGGG TCGCGCGTTT CGGTGATGAC
GGTGAAAACC TCTGACACAT GCAGCTCCCG TTGACGGTCA CAGCTTGTCT GTAAGCGGAT GCCGGGAGCA
GACAAGCCCG TCAGGGCGCG TCAGCGGGTG TTGGCGGGTG TCGGGGCTGG CTAACTATG CGGCATCAGA
GCAGATTGTA CTGAGAGTGC ACCATAAAT TGTAACGTT AATATTTTGT TAAAATTCGC GTTAAATTTT
TGTTAAATCA GTCATTTTT TAACCAATAG GCCGAAATCG GCAAAATCCC TTATAATCA AAAGAATAGC
CCGAGATAGG GTTGAGTGTT GTTCCAGTTT GGAACAAGAG TCCACTATTA AAGAACGTGG ACTCCAACGT
CAAAGGGCGA AAAACCGTCT ATCAGGGCGA TGGCCACTA CGTGAACCAT CACCAAATC AAGTTTTTTG
GGTTCGAGGT GCCGTAAGC ACTAAATCGG AACCTAAAG GGAGCCCCG ATTTAGAGT TGACGGGGAA
AGCCGGCGAA CGTGCGGAGA AAGGAAGGGA AGAAAGCGAA AGGAGCGGGC GCTAGGGCGC TGGCAAGTGT
AGCGGTACG CTGCGCGTAA CCACCACACC CGCCGCGCTT AATGCGCCG TACAGGGCGC GACTATGTT
TGCTTTGACG TATGCGGTGT GAAATACCGC ACAGATGCGT AAGGAGAAAA TACCGCATCA GGCGCCATTC
GCCATTCAGG CTGCGCAACT GTTGGGAAGG GCGATCGGTG CGGGCCTCTT CGCTATTACG CCAGCTGGCG
AAAGGGGGAT GTGCTGCAAG GCGATTAAGT TGGGTAACGC CAGGGTTTTT CCAGTCACGA CGTTGTAAAA
CGACGGCCAG TGAATTGGAG GCTACAGTCA GTGGAGAGGA CTTTCACAGG CTGTCGCGCT GCTCATTTGA
TAACTGCCG TTATTCATGC GACACGCCTG CCCAAGGAAA GCACAGCCAA AAGGGACACA GGCACCAGCA
CGTCCGGAT CGTCCGCAC GTGCTCAAAC TCCCTGCCA CGTTCAGCT GCTGGACGT ACTAACGTCT
```



GAGAGAGAGG CTTGGGAGAA TGACAAGGCG GTCGCTGGGG CAACCAGGAG TAGTTTCATA CACCGGGACT  
 CCGGCTCCCT TGCCCGTATT CTATAGACTC TGAACCGTAC AGTTCAGGCC ATGCTGCCTT CCTGGGCTCT  
 GTGCATAGTT TATCGCCGGG AGTCTCACCC CCTACAAGAA CATGGCACAG TCCGGGGCGG ACCCTTTTGC  
 CCCGCCATAT AGCGTCACGA CCCGCCCGT TGTGAGGTTA TAAAGTGCGC GCGCAGCGGC GCTCGGCGCC  
 GTGGCCGCGC TTCGCTGGCT TTCTGCTCAT CTAGGTTGGC AGCGGCTACC TACCTCAGCT CTCGCCCTGC  
 TGCCGCCACG GCCTGGGCGC TGTCCCTCAG CTCCCGGAGC TCAGCGCGAA GCCCTGGCCC CGGCGGCGCG  
 GGCATGGGTC AGGGGCGCGG CGTGAGGCGG CTTTCTGCAC GGCCGTGACG TGCATTGGCT TCAGCCTAG  
 CATGGAAGAC GCCAAAAACA TAAAGAAAGG CCCAGCGCCA TTCTACCCAC TCGAAGACGG GACCGCCGGC  
 GAGCAGCTGC ACAAAGCCAT GAAGCGCTAC GCCCTGGTGC CCGGCACCAT CGCCTTTACC GACGCACATA  
 TCGAGGTGGA CATTACCTAC GCCGAGTACT TCGAGATGAG CGTTTCGGCTG GCAGAAGCTA TGAAGCGCTA  
 TGGGCTGAAT ACAAACCATC GGATCGTGGT GTGCAGCGAG AATAGCTTGC AGTTCTTCAT GCCCGTGTG  
 GGTGCCCTGT TCATCGGTGT GGCTGTGGCC CCAGCTAACG ACATCTACAA CGAGCGCGAG CTGCTGAACA  
 GCATGGGCAT CAGCCAGCCC ACCGTCGTAT TCGTGAGCAA GAAAGGGCTG CAAAAGATCC TCAACGTGCA  
 AAAGAAGCTA CCGATCATA AAAAGATCAT CATCATGGAT AGCAAGACCG ACTACCAGG CTTCCAAGC  
 ATGTACACCT TCGTGACTTC CCATTTGCCA CCCGGCTTCA ACGAGTACGA CTTCTGTGCC GAGAGTTCG  
 ACCGGGACAA AACCATCGCC CTGATCATGA ACAGTAGTGG CAGTACCGGA TTGCCAAAGG GCGTAGCCCT  
 ACCGCACCGC ACCGCTTGTG TCCGATTGAG TCATGCCCGC GACCCCATCT TCGGCAACCA GATCATCCCC  
 GACACCGCTA TCCTCAGCGT GGTGCCATTT CACCACGGCT TCGGCATGTT CACCACGCTG GGCTACTTGA  
 TCTGCGGCTT TCGGGTCGTG CTCATGTACC GCTTCGAGGA GGAGCTATTC TTGCGCAGCT TGCAAGACTA  
 TAAGATCAA TCTGCCCTGC TGGTGCCAC ACTATTTAGC TTCTTCGCTA AGAGCACTCT CATCGACAAG  
 TACGACCTAA GCAACTTGCA CGAGATCGCC AGCGGCGGGG CGCCGCTCAG CAAGGAGGTA GGTGAGGCCG  
 TGGCCAAACG CTTCCACCTA CCAGGCATCC GCCAGGGCTA CGCCCTGACA GAAACAACCA GCGCCATTCT  
 GATCACCCCG GAAGGGGACG ACAAGCCTGG CGCAGTAGGC AAGGTGGTGC CCTTCTCGA GGCTAAGGTG  
 GTGGACTTGG ACACCGGTAA GACACTGGGT GTGAACCAGC GCGGCGAGCT GTGCGTCCGT GGCCCATGA  
 TCATGAGCGG CTACGTTAAC AACCCGAGG CTACAAACGC TCTCATCGAC AAGGACGGCT GGCTGCACAG  
 CGGCGACATC GCCTACTGGG ACGAGGACGA GCACTTCTTC ATCGTGGACC GGCTGAAGAG CCTGATCAAA  
 TACAAGGGCT ACCAGGTAGC CCCAGCCGAA CTGGAGAGCA TCCTGCTGCA ACACCCCAAC ATCTTCGACG  
 CCGGGGTCGC CGGCCTGCC GACGACGATG CCGGCGAGCT GCCCGCCGCA GTCGTGCTGC TGGAACACGG  
 TAAAACCATG ACCGAGAAGG AGATCGTGGG CTATGTGGCC AGCCAGGTTA CAACCGCAA GAAGCTGCGC  
 GGTGGTGTG TGTTCTGGA CGAGGTGCT AAAGACTGA CCGCAAGTT GGACGCCGC AAGATCCGCG  
 AGATTCTCAT TAAGCCAAG AAGGGCGGAA AGATCGCCGT GTAAGAATTC CGATCATATT CAATAACCCT  
 TAATATAACT TCGTATAATG TATGCTATAC GAAGTTATTA GGTCTGAAGA GGAGTTTACG TCCAGCCAAG  
 CTTAGGATCT CGACCTCGAA ATTCTACCGG GTAGGGGAGG CGCTTTTCCC AAGGCAGTCT GGAGCATGCG  
 CTTTAGCAGC CCCGCTGGGC ACTTGGCGCT ACACAAGTGG CCTCTGGCCT CGCACACATT CCACATCCAC  
 CGGTAGGCGC CAACCGACTC CGTTCTTTGG TGGCCCCCTC GCGCCACCTT CTACTCTCC CCTAGTCAGG  
 AAGTCCCCC CGCCCCGCA GCTCGCGTCG TGCAGGACGT GACAAATGGA AGTAGCACGT CTCACTAGTC  
 TCGTGAGAT GGACAGCACC GCTGAGCAAT GGAAGCGGT AGGCCTTTGG GGCAGCGGC AATAGCAGT  
 TTGCTCCTTC GCTTTCTGG CTCAGAGGT GGAAGGGGT GGTCCGGG GCGGGCTCAG GGGCGGGCTC  
 AGGGGCGGGG CGGGCGCCG AAGTCTCC CGAGGCCCG CATTCTGCAC GCTTCAAAAG CGCACGTCTG  
 CCGCGCTGTT CTCTCTTCC TCATCTCCG GCCTTTGAC CTGCATCCAT CTAGATCTCG AGCAGCTGAA  
 GCTTACCATG ACCGAGTACA AGCCACGGT GCGCCTCGCC ACCCGCGACG ACGTCCCAG GGCCGTACGC  
 ACCCTCGCG CCGGTTTCGC CGACTACCC GCCACGCGCC ACACCGTCGA TCCGGACCG CACATCGAGC  
 GGGTACCAGA GCTGCAAGAA CTCTCTCA CGCGCTCGG GCTCGACATC GGCAAGGTGT GGGTCGCGGA  
 CGACGGCGCC GCGGTGGCG TCTGGACCAC GCCGGAGAGC GTCGAAGCG GGGCGGTGT CGCCGAGATC  
 GGCCCGGCA TGCCGAGTT GAGCGTTCC CGGCTGGCCG CGCAGCAACA GATGGAAGG CTCCTGGCGC  
 CGCACCGCC CAAGGAGCCC GCGTGGTTCC TGCCACCGT CGGCTCTCG CCCGACCACC AGGGCAAGGG  
 TCTGGGCAGC GCCGTCGTG TCCCGGAGT GGAGCGGCC GAGCGCGCG GGTGCCCGC CTTCTGGAG  
 ACCTCCGCG CCCACAACCT CCCCTTAC GAGCGGCTCG GCTTACCGT CACCGCCGAC GTCGAGGTG  
 CCGAAGGACC GCGCACCTG TGATGACCC GCAAGCCCG TGCTGACGC CCGCCCCACG ACCCGCAGCG  
 CCCGACCGAA AGGAGCGCAC GACCCATGC ATCGATGATA TCAGATCCCC GGGATGCAGA AATTGATGAT  
 CTATTAACA ATAAAGATGT CCACTAAAT GGAAGTTTT CTTGTCATAC TTTGTTAAGA AGGGTGAGAA  
 CAGAGTACCT ACATTTGAA TGAAGGATT GGAGTACGG GGTGGGGT GGGTGGGAT TAGATAAATG

```

CCTGCTCTTT ACTGAAGGCT CTTTACTATT GCTTTATGAT AATGTTTCAT AGTTGGATAT CATAATTTAA
ACAAGCAAAA CCAAATTAAG GGCCAGCTCA TTCCTCCAC TCATGATCTA TAGATCTATA GATCTCTCGT
GGGATCATTG TTTTCTCTT GATTCCCACT TTGTGGTTCT AAGTACTGTG GTTTCCAAAT GTGTCAGTTT
CATAGCCTGA AGAACGAGAT CAGCAGCCTC TGTTCCACAT ACAC TTCATT CTCAGTATTG TTTTGCCAAG
TTCTAATTCC ATCAGAAGCT GGTGAGATC CGGAACCCTT AATATAACTT CGTATAATGT ATGCTATACG
AAGTTATTAG GTCCTCGAA GAGGTTCACT AGGCGCGCCG GTGAGTGTCA GTCATCCCTA GGGCTTTCAT
CCTGAGGGCA CCCACAGCAA GACGACTTTC AGGAAGGGAC TTTGGCCAAA GCGTGCCTGC CTGTGCTGGA
CGGACGGCTA GCTAGTTCAG GTCGAGTCC CAGACAATTA TTTCCAGTTT TTAAAAGGTC TCGCCTTGTA
GCCTAGGCTG GCTTCCAAC CTTAATCCTC CTTCTTGGC ATCCAGGTG CTGTGATTGC AGGTGTGCCA
CTACAAC TAG CTTCTCTTTA GGGAACTTG ACTCTTCTGC ATCCTGTCAT TTGGTTAAGG ATGAGGCAAG
ATTCATGCTT AGCTCGGCTG GTTACCCAGT TTGAGCCAGG CAACCTGGTA TCCTAGGCTA GCCTGGCTTC
ATTCTCCATC CTGGTACTCA CTAATGTTGC AACACGTGTT ACATCACTTG CCATCCCCC AGCTGTGAG
GGCGACACCA CCCACTCAGC TCAGTTAGTA GTGATATTTT ACTCTCCAGC CCCCAGTACT GATCTACCTC
ACAAGGTGGA GCAGGATTTG GCTGGGAGGA ACTGGATGGG GCAGGGTGGT AAGTAGGGT TTGTAATCCC
CTGAACAGT CACTCTCGCC GGTGAGACT TAGATCAGAA GGGATCTTGC TGCCGCCGA AAGAGGAAGG
GCTGGAAGAG GAAGGAGCTT GCGTAATCA TGTCATAGC TGTTCCTGT GTGAAATGT TATCCGCTCA
CAATTCACA CAACATACGA GCCGGAAGCA TAAAGTGTA AGCCTGGGT GCCTAATGAG TGAGTAACT
CACATTAATT GCGTTGCGCT CACTGCCCGC TTTCCAGTCG GAAACCTGT CGTGCCAGT GCATTAATGA
ATCGGCCAAC GCGCGGGGAG AGGCGGTTT CGTATTGGG GCTCTTCCG TTCCTCGCTC ACTGACTCGC
TGCCTCGGT CGTTCGGCTG CCGCGAGCGG TATCAGCTCA CTCAAAGGCG GTAATACGGT TATCCACAGA
ATCAGGGGAT AACGCAGGAA AGAACATGTG AGCAAAAGC CAGCAAAAGG CCAGGAACCG TAAAAAGGCC
GCGTTGCTGG CGTTTTTCCA TAGGCTCCGC CCCCCTGACG AGCATCACAA AAATCGACG TCAAGTCAGA
GGTGGCGAAA CCCGACAGGA CTATAAAGAT ACCAGGCGTT TCCCCGGA AGCTCCCTCG TGCCTCTCC
TGTCCGACC CTGCCGCTTA CCGGATACCT GTCCGCCTTT CTCCCTTCGG GAAGCGTGGC GCTTTCTCAT
AGCTCACGCT GTAGGTATCT CAGTTCGGTG TAGGTCGTTT GCTCCAAGCT GGGCTGTGTG CACGAACCCC
CCGTTAGCC CGACCGCTGC GCCTTATCCG GTAACTATCG TCTTGAGTCC AACCCGTA GACACGACTT
ATCGCCACTG GCAGCAGCCA CTGGTAACAG GATTAGCAGA GCGAGGTATG TAGGCGGTG TACAGAGTTC
TTGAAGTGGT GGCCTAACTA CCGCTACACT AGAAGAACAG TATTTGGTAT CTGCGCTCTG CTGAAGCCAG
TTACCTTCGG AAAAAGAGTT GGTAGCTCTT GATCCGGCAA ACAAACCACC GCTGGTAGCG GTGGTTTTTT
TGTTTGCAAG CAGCAGATTA CGCGCAGAAA AAAAGGATCT CAAGAAGATC CTTTGATCTT TTCTACGGG
TCTGACGCTC AGTGGAACGA AACTCACGT TAAGGGATTT TGTCATGAG ATTATCAAAA AGGATCTTCA
CCTAGATCCT TTTAAATTA AAATGAAGTT TTAATCAAT CTAAAGTATA TATGAGTAAA CTTGGTCTGA
CAGTTACCAA TGCTTAATCA GTGAGGCACC TATCTCAGCG ATCTGTCTAT TTCGTTTATC CATAGTTGCC
TGAATCCCCG TCGTGTAGAT AACTACGATA CGGGAGGGCT TACCATCTGG CCCCAGTGT GCAATGATAC
CGCGAGAACC ACGCTACCG GCTCCAGATT TATCAGCAAT AAACCAGCCA GCCGGAAGGG CCGAGCGCAG
AAGTGGTCTT GCAACTTTAT CCGCTCCAT CCAGTCTATT AATTGTTGCC GGAAGCTAG AGTAAGTAGT
TCGCCAGTTA ATAGTTTGGC CAACGTTGTT GCCATTGCTA CAGGCATCGT GGTGTCACCG TCGTCGTTT
GTATGGCTT ATTACAGCTCC GGTCCCAAC GATC

```

**GE100003**, scramble sequence in pCas-Guide vector

**Disclaimer:**

These products are manufactured and supplied by OriGene under license from ERS. The kit is designed based on the best knowledge of CRISPR technology. The system has been functionally validated for knocking-in the cassette downstream the native promoter. The efficiency of the knock-out varies due to the nature of the biology and the complexity of the experimental process.

**RefSeq:**

[NM\\_026384](#)

**UniProt ID:**

[Q9DCV3](#)

**Synonyms:**

0610010B06Rik; ARAT; DGAT-2

**Summary:**

Essential acyltransferase that catalyzes the terminal and only committed step in triacylglycerol synthesis by using diacylglycerol and fatty acyl CoA as substrates. Required for synthesis and storage of intracellular triglycerides. Probably plays a central role in cytosolic lipid accumulation. In liver, is primarily responsible for incorporating endogenously synthesized fatty acids into triglycerides. Functions also as an acyl-CoA retinol acyltransferase (ARAT) (By similarity).[UniProtKB/Swiss-Prot Function]

**Product images:**
