

## Product datasheet for **KN218134**

### SIRT1 Human Gene Knockout Kit (CRISPR)

#### Product data:

**Product Type:** Knockout Kits (CRISPR)  
**Format:** 2 gRNA vectors, 1 GFP-puro donor, 1 scramble control  
**Donor DNA:** GFP-puro  
**Symbol:** SIRT1  
**Locus ID:** 23411  
**Components:** **KN218134G1**, SIRT1 gRNA vector 1 in pCas-Guide CRISPR vector (GE100002), Target Sequence: CTCCGCGGCCTCTTGCGGAG  
**KN218134G2**, SIRT1 gRNA vector 2 in pCas-Guide CRISPR vector (GE100002), Target Sequence: GAGATGGTCCC GGCCTCGAG  
**KN218134D**, donor DNA containing left and right homologous arms and GFP-puro functional cassette.

Homologous arm and GFP-puro sequences:

pUC vector backbone in gray; **Left arm sequence in blue**; **GFP-puro in green**; **Right arm in violet**

```
GATCGTTGGG AACCGGAGCT GAATGAAGCC ATACCAAACG ACGAGCGTGA CACCACGATG CCTGTAGCAA
TGGCAACAAC GTTGCACAAA CTATTAACCTG GCGAACTACT TACTCTAGCT TCCCAGCAAC AATTAATAGA
CTGGATGGAG GCGGATAAAG TTGCAGGACC ACTTCTGCGC TCGGCCCTTC CGGCTGGCTG GTTTATTGCT
GATAAATCTG GAGCCGGTGA GCGTGGTTCT CGCGGTATCA TTGCAGCACT GGGGCCAGAT GGTAAGCCCT
CCCGTATCGT AGTTATCTAC ACGACGGGGA GTCAGGCAAC TATGGATGAA CGAAATAGAC AGATCGCTGA
GATAGGTGCC TCACTGATTA AGCATTGGTA ACTGTACAGC CAAGTTTACT CATATATACT TTAGATTGAT
TTAAAACCTC ATTTTAAATT TAAAAGGATC TAGGTGAAGA TCCTTTTTGA TAATCTCATG ACCAAAATCC
CTTAACGTGA GTTTTCGTTC CACTGAGCGT CAGACCCCGT AGAAAAGATC AAAGGATCTT CTTGAGATCC
TTTTTTCTG CGCGTAATCT GCTGCTTGCA AACAAAAAAA CCACCGCTAC CAGCGGTGGT TTGTTTGCCG
GATCAAGAGC TACCAACTCT TTTTCCGAAG GTAAGTGGCT TCAGCAGAGC GCAGATACCA AATACTGTTC
TTCTAGTGTA GCCGTAGTTA GGCCACCACT TCAAGAAGTCT TGTAGCACCG CCTACATACC TCGCTCTGCT
AATCCTGTTA CCAGTGGCTG CTGCCAGTGG CGATAAGTCG TGTCTTACCG GGTGGACTC AAGACGATAG
TTACCGGATA AGGCGCAGCG GTCGGGCTGA ACGGGGGGTT CGTGACACACA GCCCAGCTTG GAGCGAACGA
CCTACACCGA ACTGAGATAC CTACAGCGTG AGCTATGAGA AAGCGCCACG CTTCCGGAAG GGAGAAAGGC
GGACAGGTAT CCGGTAAGCG GCAGGGTCCG AACAGGAGAG CGCACGAGGG AGCTTCCAGG GGGAAACGCC
TGGTATCTTT ATAGTCCTGT CGGGTTTCGC CACCTCTGAC TTGAGCGTCG ATTTTGTGTA TGCTCGTCAG
GGGGGCGGAG CCTATGGAAA AACGCCAGCA ACGCGGCCTT TTTACGGTTC CTGGCCTTTT GCTGGCCTTT
TGCTCACATG TTCTTTCCTG CGTTATCCCC TGATTCTGTG GATAACCGTA TTACCGCCTT TGAGTGAGCT
GATACCGCTC GCCGCAGCCG AACGACCGAG CGCAGCGAGT CAGTGAGCGA GGAAGCGGAA GAGCGCCCAA
TACGCAAACC GCCTCTCCCC GCGCGTTGGC CGATTTCATTA ATGCAGCTGG CACGACAGGT TTCCCAGCTG
GAAAGCGGGC AGTGAGCGCA ACGCAATTAA TGTGAGTTAG CTCACTCATT AGGCACCCCA GGCTTTACAC
TTTATGCTTC CGGCTCGTAT GTTGTTGGA ATTGTGAGCG GATAACAATT TCACACAGGA AACAGCTATG
ACCATGATTA CGCCAAGCTC CTTCTCTTC CAGCCCTTCC TCTTCTACTG ACTGACTGAC TGCGTCTCAA
```



CCTAAGGAGC AAAAGAGGAG CTGTCAGAAC GGTGTGAGGA GAGTGGGAAA GGAGCCGCTT CCTTTTGCCT  
 CTCTTCTAC TTATTAACAA AACAGAACGA CTATCCAACG TATTTTCAGG AGCTAAGTCT TAGCCAGCTT  
 CAGCTGTGTT TTAACCCCTA GCTAAATATA GACAAGGCTA AGGCAGGCCA GGTGTACACT TCAGGAAGAC  
 GTGGAAATTC CCAGGGCCGA CCAAAACTTG AGCTGTTCGG GCGGTAGTGA TTTGAGGTCA GTTTGAAAGA  
 GAAGTTGAGA AAGCGGCCGA GGGGCGAATT TGGCTGCACT ACACGCTCGC CACAAAGAGG AAGGGCCGCC  
 GGCCGCCGGG GCCGAGTGCG CTTCCAGCCC AGGCGGAGCG GTAGACGCAA CAGCCTCCGC CCGCCACGTG  
 ACCCGTAGTG TTGTGGTCTG GCCCGCTGGG GTGGCGGGAG CGCCGAGAGG GCGGGGGCGG CGATGGGGCG  
 GGTACAGTGA TGGGGTTTAA ATCTCCCGCA GCCGGAGCCG CGGGGGCGCC AGTGCCGCGC GTCGAGCGGG  
 AGCAGAGGAG GCGAGGGAGG AGGGCCAGAG AGGCAGTTGG AAGACTAGCA TGGAGAGCGA CGAGAGCGGC  
 CTGCCCGCCA TGGAGATCGA GTGCCGCATC ACCGGCACCC TGAACGGCGT GGAGTTCGAG CTGGTGGGCG  
 GCGGAGAGGG CACCCCGAG CAGGGCCGCA TGACCAACAA GATGAAGAGC ACCAAAGGCG CCCTGACCTT  
 CAGCCCCTAC CTGCTGAGCC ACGTGATGGG CTACGGCTTC TACCACTTCG GCACCTACCC CAGCGGCTAC  
 GAGAACCCCT TCCTGCACGC CATCAACAAC GGCGGTACA CCAACACCCG CATCGAGAAG TACGAGGACG  
 GCGGCGTGCT GCACGTGAGC TTCAGCTACC GCTACGAGGC CGGCCGCGTG ATCGGCGACT TCAAGGTGAT  
 GGGCACCGGC TTCCCGAGG ACAGCGTGAT CTTACCAGAC AAGATCATCC GCAGCAACGC CACCGTGGAG  
 CACCTGCACC CCATGGGCGA TAACGATCTG GATGGCAGCT TCACCCGCAC CTTACAGCTG CGCGACGGCG  
 GCTACTACAG CTCCGTGGTG GACAGCCACA TGCACTTCAA GAGCGCCATC CACCCAGCA TCCTGCAGAA  
 CGGGGGCCCC ATGTTCCGCT TCCGCCGCGT GGAGGAGGAT CACAGCAACA CCGAGCTGGG CATCGTGGAG  
 TACCAGCACG CCTTCAAGAC CCCGGATGCA GATGCCGGTG AAGAAAGAGT TTAAGAATTC CGATCATATT  
 CAATAACCCT TAATATAACT TCGTATAATG TATGCTATAC GAAGTTATTA GGTCTGAAGA GGAGTTTACG  
 TCCAGCCAAG CTTAGGATCT CGACCTCGAA ATTCTACCGG GTAGGGGAGG CGCTTTTCCC AAGGCAGTCT  
 GGAGCATCGC CTTTAGCAGC CCCGTGGGC ACTTGGCGCT ACACAAGTGG CCTCTGGCCT CGCACACATT  
 CCACATCCAC CGGTAGGCGC CAACCGACTC CGTTCTTTGG TGGCCCTTC GCGCCACCTT CTRACTCTCC  
 CCTAGTCAGG AAGTTCCTCC CGCCCGGCA GCTCGCGTCG TGCAGGACGT GACAAAATGGA AGTAGCACGT  
 CTRACTAGTC TCGTGCAGAT GGACAGCACC GCTGAGCAAT GGAAGCGGGT AGGCCTTTGG GGCAGCGGCC  
 AATAGCAGCT TTGCTCCTTC GCTTTCTGGG CTCAGAGGCT GGAAGGGGT GGGTCCGGGG GCGGGCTCAG  
 GGGCGGGCTC AGGGGCGGGG CGGGCGCCCG AAGGTCTCTC GGAGGCCCGG CATTCTGCAC GCTTCAAAAG  
 CGCACGTCTG CCGCGCTGTT CTCCTCTTCC TCATCTCCGG GCCTTTTCGAC CTGCATCCAT CTAGATCTCG  
 AGCAGCTGAA GCTTACCATG ACCGAGTACA AGCCACGGT GCGCCTCGCC ACCCGCAGC ACGTCCCCAG  
 GGCCGTACGC ACCCTCGCG CCGCGTTCGC CGACTACCC GCCACGCGCC ACACCGTCGA TCCGGACCGC  
 CACATCGAGC GGGTCACCGA GCTGCAAGAA CTCTTCTCA CGCGCGTCGG GCTCGACATC GGCAAGGTGT  
 GGGTCCGGGA CGACGGCGCC GCGGTGGCGG TCTGACCAC GCCGGAGAGC GTCGAAGCGG GGGCGGTGTT  
 CGCCGAGATC GGCCCGCGCA TGGCCGAGTT GAGCGGTTCC CGGCTGGCCG CGCAGCAACA GATGGAAGGC  
 CTCTGGCGC CGCACCGGCC CAAGGAGCCC GCGTGGTTCC TGGCCACCGT CGGCGTCTCG CCCGACCACC  
 AGGGCAAGGG TCTGGGCAGC GCCGTCGTGC TCCCGGAGT GGAGGCCGCC GAGCGCGCCG GGGTCCCCGC  
 CTTCTGGAG ACCTCCGCGC CCCACAACCT CCCCTTCTAC GAGCGGCTCG GCTTACCGT CACCGCCGAC  
 GTCGAGGTGC CCGAAGGACC GCGCACCTGG TGCATGACCC GCAAGCCCGG TGCCTGACGC CCGCCCCAG  
 ACCCGCAGCG CCCGACCGAA AGGAGCGCAC GACCCCATGC ATCGATGATA TCAGATCCCC GGGATGCAGA  
 AATTGATGAT CTATTAACA ATAAAGATGT CCACTAAAAT GGAAGTTTTT CCTGTCATAC TTTGTAAAGA  
 AGGGTGAGAA CAGAGTACCT ACATTTTGAA TGAAGGATT GGAGCTACGG GGGTGGGGT GGGGTGGGAT  
 TAGATAAATG CCGTCTCTT ACTGAAGGCT CTTTACTATT GCTTTATGAT AATGTTTCAT AGTTGGATAT  
 CATAATTTAA ACAAGCAAAA CCAAAATTAAG GGCCAGCTCA TTCCTCCAC TCATGATCTA TAGATCTATA  
 GATCTCTCGT GGGATCATTG TTTTCTCTT GATTCCACT TTGTGGTTCT AAGTACTGTG GTTTCCAAAT  
 GTGTCAAGTT CATAGCCTGA AGAACGAGAT CAGCAGCTC TGTTCCACAT ACACTTCATT CTCAGTATTG  
 TTTTGCCAAG TTCTAATTCC ATCAGAAGCT GGTCGAGATC CGGAACCCTT AATATAACTT CGTATAATGT  
 ATGCTATACG AAGTTATTAG GTCCTCGAA GAGGTTCACT AGGCGCGCCA **GCCCGTGGG GCGGCCAG**  
**AGCGTGAGT GCCGGCGCG GCCAGGGCT GCCCGGTGC GCGGCGGCG GCGCTGTGC GGGAGCGGA**  
**GGCAGAGCG GCGGCGGAG GCGGGAGCA AGAGGCCAG GCGACTCGG CGGCTGGGA AGGAGACAAT**  
**GGCCCGGCC TGCAAGGCC ATCTCGGAG CCACCGCTG CCGACAATT GTACGACGAA GACGACGACG**  
**ACGAGGGCGA GGAGGAGAA GAGGCGGCG GCGGCGGAT TGGTACCGA GGTGCGCAGG GTGCGGGCGG**  
**CCGGAAGTGC GCATCTCTC CTCCCTCTC CCGGCTCTT ACTGGCTGA GGTGAGGGG GGCTGGGGG**  
**TCGGGACAG CTCCGCGGG TTCCCTCTC CACCCGGCC CTCCGTTAG CCGCGCTCT CCGGGCTGC**

GGTTCTACT GCGCGAGCTG CCAGTGGATT CGCTCTTTTC CTCCGTCCGT GGCCCGCCTG GCGGCGCTTG  
 TTCTTTCCGC AGCAGCCAGG TCGGGAGACT CTCGCAGTCG CTTTAAAAATA AGTTTCTCTC CCCCTCTTAC  
 TCTTTTAGCA TATTGCTTTT CCAAGAGACG ACTGACTGAC TGACTGGAAA GTCCTCTCCA CTGACTGTAG  
 CCTCCAATTC ACTGGCCGTC GTTTTACAAC GTCGTGACTG GGAAAACCCT GGCGTTACCC AACTTAATCG  
 CCTTGACGCA CATCCCCCTT TCGCCAGCTG GCGTAATAGC GAAGAGGCCG GCACCGATCG CCCTGCCAA  
 CAGTTGCGCA GCCTGAATGG CGAATGGCGC CTGATGCGGT ATTTTCTCCT TACGCATCTG TCGGATATT  
 CACACCGCAT ACGTCAAAGC AACCATAGTA CGCGCCCTGT AGCGGCGCAT TAAGCGCGGC GGGTGTGGTG  
 GTTACGCGCA GCGTGACCGC TACACTTGCC AGCGCCCTAG CGCCCGCTCC TTTCGCTTTC TTCCCTTCT  
 TTCTCGCCAC GTTCGCCGGC TTTCCCGCTC AAGCTCTAAA TCGGGGGCTC CCTTTAGGGT TCCGATTTAG  
 TGCTTTACGG CACCTCGACC CCAAAAAACT TGATTTGGGT GATGGTTCAC GTAGTGGGCC ATCGCCCTGA  
 TAGACGGTTT TTCGCCCTTT GACGTTGGAG TCCACGTTCT TTAATAGTGG ACTCTTGTTT CAAACTGGAA  
 CAACACTCAA CCCTATCTCG GGCTATTCTT TTGATTTATA AGGGATTTTG CCGATTTCCG CCTATTGGTT  
 AAAAAATGAG CTGATTTAAC AAAAAATTTAA CGCGAATTTT AACAAAATAT TAACGTTTAC AATTTTATGG  
 TGCACTCTCA GTACAATCTG CTCTGATGCC GCATAGTTAA GCCAGCCCGG ACACCCGCCA ACACCCGCTG  
 ACGCGCCCTG ACGGGCTTGT CTGCTCCCGG CATCCGCTTA CAGACAAGCT GTGACCGTCA ACGGGAGCTG  
 CATGTGTACAG AGGTTTTTAC CGTCATCACC GAAACGCGCG ACCCGAAAGG GCCTCGTGAT ACGCCTATTT  
 TTATAGGTTA ATGTCATGAT AATAATGGTT TCTTAGACGT CAGGTGGCAC TTTTCGGGGA AATGTGCGCG  
 GAACCCCTAT TTGTTTATTT TTCTAAATAC ATTCAAATAT GTATCCGCTC ATGAGACAAT AACCCGTGATA  
 AATGCTTCAA TAATATTGAA AAAGGAAGAG TATGAGTATT CAACATTTCC GTGTCGCCCT TATTCCCTTT  
 TTTGCGGCAT TTTGCCTTCC TGTTTTTGT CACCCAGAAA CGCTGGTGAA AGTAAAAGAT GCTGAAGATC  
 AGTTGGGTGC ACGAGTGGGT TACATCGAAC TGGATCTCAA CAGCGGTAAG ATCCTTGAGA GTTTTCGCCC  
 CGAAGAACGT TTTCCAATGA TGAGCACTTT TAAAGTTCTG CTATGTGGCG CGGTATTATC CCGTATTGAC  
 GCCGGGCAAG AGCAACTCGG TCGCCGCATA CACTATTCTC AGAATGACTT GGTGAGTAC TCACCAGTCA  
 CAGAAAAGCA TCTTACGGAT GGCATGACAG TAAGAGAATT ATGCAGTGCT GCCATAACCA TGAGTGATAA  
 CACTGCGGCC AACTTACTTC TGACAACGAT CGGAGGACCG AAGGAGCTAA CCGCTTTTTT GCACAACATG  
 GGGGATCATG TAACTCGCCT T

**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\\_001142498](#), [NM\\_001314049](#), [NM\\_012238](#)

**UniProt ID:**

[Q96EB6](#)

**Synonyms:**

SIR2; SIR2alpha; SIR2L1

**Summary:**

This gene encodes a member of the sirtuin family of proteins, homologs to the yeast Sir2 protein. Members of the sirtuin family are characterized by a sirtuin core domain and grouped into four classes. The functions of human sirtuins have not yet been determined; however, yeast sirtuin proteins are known to regulate epigenetic gene silencing and suppress recombination of rDNA. Studies suggest that the human sirtuins may function as intracellular regulatory proteins with mono-ADP-ribosyltransferase activity. The protein encoded by this gene is included in class I of the sirtuin family. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Dec 2008]

