

Product datasheet for **KN201807**

Glucose 6 Phosphate Dehydrogenase (G6PD) 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:	Glucose 6 Phosphate Dehydrogenase
Locus ID:	2539
Components:	KN201807G1 , Glucose 6 Phosphate Dehydrogenase gRNA vector 1 in pCas-Guide CRISPR vector (GE100002), Target Sequence: CCGGAAACGGTCGTACACTT KN201807G2 , Glucose 6 Phosphate Dehydrogenase gRNA vector 2 in pCas-Guide CRISPR vector (GE100002), Target Sequence: ACGAAGCGCAGGTAACCGGC KN201807D , 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 CGAAAATAGAT 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 GGTTGGACTC AAGACGATAG
TTACCGGATA AGGCGCAGCG GTCGGGCTGA ACGGGGGGTT CGTGACACACA GCCCAGCTTG GAGCGAACGA
CCTACACCGA ACTGAGATAC CTACAGCGTG AGCTATGAGA AAGCGCCACG CTTCCCGAAG GGAGAAAGGC
GGACAGGTAT CCGGTAAGCG GCAGGGTCCG AACAGGAGAG CGCACGAGGG AGCTTCCAGG GGGAAACGCC
TGGTATCTTT ATAGTCCTGT CCGGTTTCGC CACCTCTGAC TTGAGCGTCG ATTTTTGTGA TGCTCGTCAG
GGGGGCGGAG CCTATGGAAA AACGCCAGCA ACGCGGCCTT TTTACGGTTC CTGGCCTTTT GCTGGCCTTT
TGCTCACATG TTCTTCCCTG 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 GTTGTGTGGA ATTGTGAGCG GATAACAATT TCACACAGGA AACAGCTATG
ACCATGATTA CGCCAAGCTC CTTCTCTTTC CAGCCCTTCC TCTTCTACTG ACTGACTGAC TGGAAGACAC
```



ACCTTCGGTA ATGATAAGCA CGCCGGCCAC TTTGCAGGGC GTCACCGCCT ACACGCCCCC TCGTCTCTCG
 GACGGCGGCG TCTAGCCTCG GGGCGCTCGG CCGCCCCGCG CTCTCCGGGG GAGGAATCAA GAAGAGACTG
 CCCAATAGGG CCGGCTTGAC CCGCGAACAG GCGAGGGTTC CCGGGGGAGT GGC CGCGGCAG AAGGCCCCGC
 CCAGGAGCCG AGGGACAGCC CAGAGGAGGC GTGGCCACGC TGCCGGCGGA AGTGGAGCCC TCCGCGAGCG
 CGCGAGGCCG CCGGGGCAGG CCGGGAAACC GGACAGTAGG GGCGGGGCCG GGCCGGCGAT GGGGATGCGG
 GAGCACTACG CGGAGCTGCA CCCGTGCCCG CCGGAATTGG GGATGCAGAG CAGCGGCAGC GGGTATGGCA
 GGCAGCCGCG GGGCCGGCCT CCAGCGCAGG TGCCCCGAGG GCAGGGGCTG GCCTGGGATG CGCGCGCACC
 TGCCCTCGCC CCGCCCCGCC CGCACGAGGG GTGGTGGCCG AGGCCCCGCC CCGCACGCCT CGCCTGAGGC
 GGGTCCGCTC AGCCGAGCGC CCCGCCCCCG CCCCCGCGGA TTAAACTAGC ATGGAGAGCG ACGAGAGCGG
 CCTGCCCGCC ATGGAGATCG AGTGCCGCAT CACCGGCACC CTGAACGGCG TGGAGTTCGA GCTGGTGGGC
 GCGGAGAGG GCACCCCGA GCAGGGCCGC ATGACCAACA AGATGAAGAG CACCAAAGGC GCCCTGACCT
 TCAGCCCTA CTTGCTGAGC CACGTGATGG GCTACGGCTT CTACCACTTC GGCACCTACC CCAGCGGCTA
 CGAGAACCC TTCCTGCACG CCATCAACAA CGGCGGCTAC ACCAACACCC GCATCGAGAA GTACGAGGAC
 GGGCGGCTGC TGCACGTGAG CTTGAGCTAC CGCTACGAGG CCGGCCGCGT GATCGGCGAC TTCAAGGTGA
 TGGGACCCGG CTTCCCGGAG GACAGCGTGA TCTTCACCGA CAAGATCATC CGCAGCAACG CCACCGTGGA
 GCACCTGCAC CCCATGGGCG ATAACGATCT GGATGGCAGC TTCACCCGCA CCTTCAGCCT GCGCGACGGC
 GGCTACTACA GCTCCGTGGT GGACAGCCAC ATGCACTTCA AGAGCGCCAT CCACCCAGC ATCCTGCAGA
 ACGGGGGCCC CATGTTCCGC TTCGCGCGG TGGAGGAGGA TCACAGCAAC ACCGAGCTGG GCATCGTGGA
 GTACCAGCAC GCCTTCAAGA CCCCGGATGC AGATGCCGTT GAAGAAAGAG TTTAAGAATT CCGATCATAT
 TCAATAACCC TTAATATAAC TTCGTATAAT GTATGCTATA CGAAGTTATT AGGTCTGAAG AGGAGTTTAC
 GTCCAGCCAA GCTTAGGATC TCGACCTCGA AATTCTACCG GGTAGGGGAG GCGCTTTTCC CAAGGCAGTC
 TGGAGCATGC GCTTTAGCAG CCCCCTGCG ACTTGGCGCT ACACAAGTGG CCTCTGGCCT CGCACACATT
 CCACATCCAC CGGTAGCGCC AACCGGCTCC GTTCTTTGGT GGCCCCTCG GCCACCTTC TACTCCTCCC
 CTAGTCAGGA AGTTCGCCCG CGCCCCGAG CTCGCGTCGT GCAGGACGTG CCAAATGGAA GTAGCAGCTC
 TCACTAGTCT CGTGCAAGT GACAGCACCG CTGAGCAATG GAAGCGGGTA GGCCTTTGGG GCAGCGGCCA
 ATAGCAGCTT TGCTCCTTCG CTTTCTGGGC TCAGCAGCTG GGAAGGGTGG GTCCGGGGG GGGCTCAGGG
 GCGGGCTCAG GGGCGGGGCG GGGCGCCGAA GGTCTCCGG AGGCCCGGCA TTCTGCACGC TTCAAAGCG
 CACGTCTGCC GCGCTGTTCT CCTTTCCTC ATCTCCGGGC CTTTGCACCT GCATCCATCT AGATCTCGAG
 CAGCTGAAGC TTACCATGAC CGAGTACAAG CCCACGGTGC GCCTCGCCAC CCGCGACGAC GTCCCCAGGG
 CCGTACGCAC CCTCGCCGCC GCGTTCGCG ACTACCCCGC CACGCGCCAC ACCGTCGATC CGGACCGCCA
 CATCGAGCGG GTCACCGAGC TGCAAGAACT CTTCTCAGC CGCGTCGGG TCGACATCGG CAAGGTGTGG
 GTCGCGGACG ACGGCGCCGC GGTGGCGGTC TGGACCACGC CGGAGAGCGT CGAAGCGGGG GCGGTGTTCCG
 CCGAGATCGG CCCGCGCATG GCCGAGTTGA GCGGTTCCCG GCTGGCCGCG CAGCAACAGA TGGAAGGCCT
 CCTGGCGCGG CACCGGCCCA AGGAGCCCGC GTGGTTCCTG GCCACCGTCG GCGTCTCGCC CGACCACCAG
 GGCAAGGGTC TGGGAGCGC CGTCGTGCTC CCCGAGTGG AGGCGGCCGA GCGCGCCGGG GTGCCCGCCT
 TCCTGGAGAC CTCGCGGCC CACAACCTCC CTTTCTACGA GCGGCTCGGC TTCACCGTCA CCGCCGACGT
 CGAGGTGCCC GAAGGACCGC GCACCTGGTG CATGACCCCG AAGCCCGGTG CCTGACGCC GCGCCACGAC
 CCGCAGCGCC CGACCGAAAG GAGCGCACGA CCCCATGCAT CGATGATATC AGATCCCCGG GATGCAGAAA
 TTGATGATCT ATTAACAAT AAAGATGTC ACTAAAATGG AAGTTTTTCC TGTCACTATT TGTTAAGAAG
 GGTGAGAACA GAGTACCTAC ATTTTGAATG GAAGGATTGG AGCTACGGGG GTGGGGGTGG GGTGGGATTA
 GATAAATGCC TGCTCTTAC TGAAGGCTCT TTAATATTGC TTTATGATAA TGTTTATAG TTGGATATCA
 TAATTTAAAC AAGCAAAACC AAATTAAGGG CCAGCTCATT CCTCCACTC ATGATCTATA GATCTATAGA
 TCTCTCGTGG GATCATTGTT TTTCTCTTGA TTCCACTTT GTGGTTCTAA GACTGTGGT TTCAAATGT
 GTCAGTTTCA TAGCCTGAAG AACGAGATCA GCAGCCTCTG TTCCACATAC ACTTCATTCT CAGTATTGTT
 TTGCCAAGTT CTAATTCAT CAGAAGCTGG TCGAGATCCG GAACCCTTAA TATAACTTCG TATAATGTAT
 GCTATACGAA GTTATTAGT CCCTCGAAGA GGTTCACTAG GCGCGCCACT **GTCCCGCGCT GCGCCGCGCG**
GCGGTA **ACACGCTGTT TGTGTGCTT GAGAACCAG CAGAATCGAG AGGGTCTTAA CCAATCCCTT**
TATACCCGCG ACCTCCTCTC TTGAGCCCT GAGACCCCGA GAGCGAAGGG GACTTGCCGA CCGGGTCCAC
CCAGCTTGGC AAGGGGAGGG CTGGAGCTGA ACTCCAGCAT CTGCACCATC TCCCATGCTC CAGGTCATTG
TGGAGTTCCT GCTACAGTCG GGAATGAGAT GGTCTGGGC ACGCAGTTCC ATGCCCCACA AGGATTTTAC
TCGGTTGTC AGAATTGATG CTGTAGTCGG AATACACCAA TGCTTTGAGT AATTTTGTA TGTACACCTC
GAATGAAGGC TGCTAGGAG AGAGTGGCTG GAGCCAGAG CCAGCAGTTT CTAACCCATC AACCCTCC

CAATGCCAG CCGTTCACAA GGAGTGATTT GGGCAATCAG GTGTCACCCT GGTGTGAGAC CCCAGAGGAA
 CTCTCAAGAA AGGGGCTAAC TTCTCAATGC TCTCCTGTTT TTCTGCCTTG TTAACGAGCC TTTCTTCCAC
 CAGACAGCGT CATGGCATCC ACAGTCTTCA CTGACTGACT GACTGGAAAG TCCTCTCCAC TGACTGTAGC
 CTCCAATTCA CTGGCCGTCG TTTTACAACG TCGTGACTGG GAAAACCCTG GCGTTACCCA ACTTAATCGC
 CTTGCAGCAC ATCCCCTTT CGCCAGCTGG CGTAATAGCG AAGAGGCCCG CACCGATCGC CCTTCCCAAC
 AGTTGCGCAG CCTGAATGGC GAATGGCGCC TGATGCGGTA TTTTCTCCTT ACGCATCTGT GCGGTATTTT
 ACACCCGATA CGTCAAAGCA ACCATAGTAC GCGCCCTGTA GCGGCGCATT AAGCGCGCGG GGTGTGGTGG
 TTACGCGCAG CGTGACCGCT ACACTTGCCA GCGCCCTAGC GCCCGCTCCT TTCGCTTCTT TCCCTTCCTT
 TCTCGCCACG TTCGCCGCTT TCCCCGTC AACTCTAAAT CGGGGGCTCC CTTTAGGGTT CCGATTAGT
 GCTTTACGGC ACCTCGACCC CAAAAAATT GATTTGGGTG ATGGTTCACG TAGTGGGCCA TCGCCCTGAT
 AGACGGTTTT TCGCCCTTTG ACGTTGGAGT CCACGTTCTT TAATAGTGA CTCTTGTTC AAAGTGAAC
 AACACTCAAC CCTATCTCGG GCTATTCTTT TGATTTATAA GGGATTTTGC CGATTTCGCG CTATTGGTTA
 AAAAATGAGC TGATTTACA AAAATTTAAC GCGAATTTTA ACAAATATT AACGTTTACA ATTTTATGGT
 GCACTCTCAG TACAATCTGC TCTGATGCG CATAGTTAAG CCAGCCCGA CACCCGCCA CACCCGCTGA
 CGGCCCCTGA CGGGCTTGTG TGCTCCCGC ATCCGCTTAC AGACAAGCTG TGACCGTCAA CGGGAGCTGC
 ATGTGTCAGA GGTTTTACC GTCATCACCG AAACGCGCA CCCGAAAGGG CCTCGTGATA CGCCTATTTT
 TATAGTTAA TGTCATGATA ATAATGGTTT CTTAGACGTC AGGTGGCACT TTTCCGGGAA ATGTGCGCGG
 AACCCCTATT TGTTATTTT TCTAAATACA TTCAAATATG TATCCGCTCA TGAGACAATA ACCCTGATA
 ATGCTTCAAT AATATTGAAA AAGGAAGAGT ATGAGTATTC AACATTCCG TGTCGCCCTT ATTCCTTTT
 TTGCGGCATT TTGCCTTCT GTTTTTGCTC ACCCAGAAAC GCTGGTAAA GTAAAAGATG CTGAAGATCA
 GTTGGGTGCA CGAGTGGGT ACATCGAAT GGATCTCAAC AGCGGTAAGA TCCTTGAGAG TTTTCGCCCC
 GAAGAACGTT TTCCAATGAT GAGCACTTTT AAAGTTCTGC TATGTGGCGC GGTATTATCC CGTATTGACG
 CCGGGCAAGA GCAACTCGGT CGCCGCATAC ACTATTCTCA GAATGACTTG GTTGAGTACT CACCAATCAC
 AGAAAAGCAT CTTACGGATG GCATGACAGT AAGAGAATTA TGCAGTGCTG CCATAACCAT GAGTGATAAC
 ACTGCGGCA ACTACTTCT GACAACGATC GGAGGACCGA AGGAGCTAAC CGCTTTTTTG CACAACATGG
 GGGATCATGT AACTCGCCTT

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_000402](#), [NM_001042351](#), [NM_001360016](#)

UniProt ID:

[P11413](#)

Synonyms:

G6PD1

Summary:

This gene encodes glucose-6-phosphate dehydrogenase. This protein is a cytosolic enzyme encoded by a housekeeping X-linked gene whose main function is to produce NADPH, a key electron donor in the defense against oxidizing agents and in reductive biosynthetic reactions. G6PD is remarkable for its genetic diversity. Many variants of G6PD, mostly produced from missense mutations, have been described with wide ranging levels of enzyme activity and associated clinical symptoms. G6PD deficiency may cause neonatal jaundice, acute hemolysis, or severe chronic non-spherocytic hemolytic anemia. Two transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jul 2008]

Product images:

