

Product datasheet for **KN208447**

HHAT 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: HHAT
Locus ID: 55733
Components: **KN208447G1**, HHAT gRNA vector 1 in pCas-Guide CRISPR vector (GE100002), Target Sequence: TAAAGTGCCAGTCCCCATCG
KN208447G2, HHAT gRNA vector 2 in pCas-Guide CRISPR vector (GE100002), Target Sequence: ATAGAAGTGGAAGCCTAGTG
KN208447D, 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 ACTGTCAGAC 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 CTTCGGGAA GAGAAAGGC
GGACAGGTAT CCGGTAAGCG GCAGGGTCCG AACAGGAGAG CGCACGAGGG AGCTTCCAGG GGGAAACGCC
TGGTATCTTT ATAGTCCTGT CGGGTTTCGC CACCTCTGAC TTGAGCGTCG ATTTTGTGA 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 CGATTCTTAA ATGCAGCTGG CACGACAGGT TTCCCAGCTG
GAAAGCGGGC AGTGAGCGCA ACGCAATTAA TGTGAGTTAG CTCACTCATT AGGCACCCCA GGCTTTACAC
TTTATGCTTC CGGCTCGTAT GTTGTGTGGA ATTGTGAGCG GATAACAATT TCACACAGGA AACAGCTATG
ACCATGATTA CGCCAAGCTC CTTCTCTTTC CAGCCCTTCC TCTTCTACTG ACTGACTGAC TGCGTCTCAA
```



CCTCAGGCAT GAGCCACCAT GCCTGGCCTA TAGTATGATA CTTGAAAGGG ACAACAAGGA TGGTGAACCT
 GTTGATTTAG AGGTTTGTAT ACTGTTTGTG CTTTTACAGC TTTTGAAGC CATTTATTAT TCACAGAGCA
 CCTGGTAGTC CTTTCTTGT ACATCCCAGG CACTGTGCTA GGGGCTGGTG AGTCAGAGAT CATGGTCCCT
 GCTATCTGAG GGTCCACTCC ACAGAAGAGA CAGGCATATT ATGCAATGGG TAGAGAACTG TCTGATGTAT
 ACTCTGATGG GAGACTGTGG GAACTCCTAG GAAAAGACCT GACCCCTTTG ACAGGCAGGA TGCACATGTG
 TGGTGTATGT GTGCGTGTGT GTGTGTGTGT GTGTGTGTGT TGGATGCAGG ATGGAGTAAG TTCACAGGGA
 GGAGGAAGCT TGATTGGGT TATGTCTGTA TCACCTTGAA TAGTGATGGG TCTCCGGGAG TGTGAACATA
 CTGAATTGAT GTTTAGATGC TGTCTCTAG TGTCTATGTT ATGGCTTAAA GTTTTGTCTC TGTTTCTCAG
 AAACCTCTAG CGTAGGCATC GGAACCTTC GTGCCAAGGA GCCTCTAGCA TGGAGAGCGA CGAGAGCGGC
 CTGCCCGCCA TGGAGATCGA GTGCCGCATC ACCGGCACCC TGAACGGCGT GGAGTTCGAG CTGGTGGGCG
 GCGGAGAGGG CACCCCGAG CAGGGCCGCA TGACCAACA GATGAAGAGC ACCAAAGGCG CCCTGACCTT
 CAGCCCCTAC CTGCTGAGCC ACGTGATGGG CTACGGCTTC TACCACTTCG GCACCTACCC CAGCGGCTAC
 GAGAACCCCT TCCTGCACGC CATCAACAAC GCGGGCTACA CCAACACCCG CATCGAGAAG TACGAGGACG
 GCGGCGTGT GCACGTGAGC TTCAGCTACC GCTACGAGGC CGGCCGCGTG ATCGGCGACT TCAAGGTGAT
 GGGCACCGGC TTCCCGAGG ACAGCGTAT CTCACCGAC AAGATCATCC GCAGCAACGC CACCGTGGAG
 CACCTGCACC CCATGGGCGA TAACGATCTG GATGGCAGCT TCACCCGCAC CTTCAGCCTG CGCGACGGCG
 GCTACTACAG CTCCGTGGTG GACAGCCACA TGCACTTCAA GAGCGCCATC CACCCAGCA TCCTGCAGAA
 CGGGGGCCCC ATGTTCCGCT TCCGCCGCGT GGAGGAGGAT CACAGCAACA CCGAGCTGGG CATCGTGGAG
 TACCAGCAGC CCTTCAAGAC CCCGGATGCA GATGCCGGTG AAGAAAGAGT TTAAGAATTC CGATCATATT
 CAATAACCT TAATATACT TCGTATAATG TATGCTATAC GAAGTTATTA GGTCTGAAGA GGAGTTTACG
 TCCAGCCAAG CTTAGGATCT CGACCTCGAA ATTCTACCGG GTAGGGGAGG CGCTTTTCCC AAGGCAGTCT
 GGAGCATCGC CTTTAGCAGC CCCGTGGGC ACTTGGCGCT ACACAAGTGG CCTCTGGCCT CGCACACATT
 CCACATCCAC CGGTAGGCGC CAACCGACTC CGTTCTTTGG TGGCCCTTC GGCACCTT CTACTCTCC
 CCTAGTCAGG AAGTTCCCGC CGGCCCGCA GCTCGCGTCG TGCAGGACGT GACAAAATGGA AGTAGCACGT
 CTCACTAGTC TCGTGCAGAT GGACAGCACC GCTGAGCAAT GGAAGCGGGT AGGCCTTTGG GGCAGCGGCC
 AATAGCAGCT TTGCTCCTC GCTTCTGGG CTCAGAGGCT GGAAGGGGT GGGTCCGGG GCGGGCTCAG
 GGGCGGGCTC AGGGGCGGGG CGGGCGCCG AAGGTCTCC GGAGGCCCG CATTCTGCAC GCTTCAAAAG
 CGCACGTCTG CCGCGTGTTC CTCCTCTCC TCATCTCCG GCCTTTCGAC CTGCATCCAT CTAGATCTCG
 AGCAGCTGAA GCTTACCATG ACCGAGTACA AGCCACGGT GCGCCTCGCC ACCCGCAGC ACGTCCCAG
 GGGCGTACG ACCCTCGCG CCGCGTTCG CACTACCC GCCACGCGCC ACACCGTGA TCCGGACCGC
 CACATCGAGC GGGTCACCGA GCTGCAAGAA CTCTTCTCA CGCGCGTCG GCTCGACATC GGCAAGGTGT
 GGGTCGCGGA CGACGGCGCC GCGGTGGCG TCTGACCAC GCCGGAGAGC GTCGAAGCGG GGGCGGTGTT
 CGCCGAGATC GGCCCGCGA TGGCCGAGTT GAGCGGTTCC CGGCTGGCCG CGCAGCAACA GATGGAAGGC
 CTCTGGCGC CGCACCGGCC CAAGGAGCCC GCGTGGTTCC TGGCCACCGT CGGCGTCTCG CCCGACCACC
 AGGGCAAGGG TCTGGGCAGC GCCGTCGTGC TCCCGGAGT GGAGGCCGCC GAGCGCGCC GGGTCCCCGC
 CTTCTGGAG ACCTCCGCGC CCCACAACCT CCCCTTCTAC GAGCGGCTCG GCTTACCGT CACCGCCGAC
 GTCGAGGTGC CCGAAGGACC GCGCACCTGG TGCATGACCC GCAAGCCCG TGCCTGACGC CCGCCCCAG
 ACCCGCAGC CCCGACCGAA AGGAGCGCAC GACCCCATGC ATCGATGATA TCAGATCCCC GGGATGCAGA
 AATTGATGAT CTATTAACA ATAAAGATGT CCACTAAAAT GGAAGTTTTT CCTGTCATC TTTGTTAAGA
 AGGGTGAGAA CAGAGTACCT ACATTTTGAA TGAAGGATT GGAGCTACGG GGGTGGGGT GGGGTGGGAT
 TAGATAAATG CCTGCTCTT ACTGAAGGCT CTTTACTATT GCTTTATGAT AATGTTTCAT AGTTGGATAT
 CATAATTTAA ACAAGCAAAA CCAAATTAAG GGCCAGCTCA TTCCTCCAC TCATGATCTA TAGATCTATA
 GATCTCTCGT GGGATCATTG TTTTCTCTT GATTCCACT TTGTGTTCT AAGTACTGTG GTTTCCAAAT
 GTGTCAGTTT CATAGCCTGA AGAACGAGAT CAGCAGCTC TGTTCCACAT ACACTTCATT CTCAGTATTG
 TTTTGCCAAG TTCTAATTCC ATCAGAAGCT GGTCGAGATC CGGAACCCTT AATATAACTT CGTATAATGT
 ATGCTATACG AAGTTATTAG GTCCTCGAA GAGGTTCACT AGGCGCGCCG AAGTTTACAA AGTCTCCAGA
 GGTAAAGGCC CAAGCTTTTC AGACCTCCTA TCAAACAAGG AAACCTCTGT CAAAAAAGG AGCAGAGGTG
 GAAGATTCAG GAAGATGATC CAATAGTGC AAGATGATGT GGGCCTTGAT TTGCTTCCC ATGCTTTGGA
 TAGTTTGAAT CAGTGACCTG AGTCCATTGA GTTTTCTACC CTAACCTAG GTCTTTTAGG TGATGCTGTG
 GCTTGTCTTC TATAATTGGT GGGTTTGATT CAAAAGCTAT TGAAGGCCGT GGAGGGGATT TGCGTTCAGA
 ATTCAAAGTA AACTCTTAAA TTTCTTTTC ATCATTACTC CTCTGAGACA TATTAGATCT GGGTTCGTTT
 TGCTTCTTC TGTCATTTT AGTGTGCTT TTGTCTGAGT GTTGGAGATA AATCATCATC AGGTACATT

CCAGCCAAA GGAAGGGGAA TGGGGGCCCT CCTTTATTTT AGCGGCAGTT TGGCAAGGAG CACTAGTCAC
 TCCTGCTCAC ACCCAACTGG CCAGCACTGA GTCCACGGG CACAGCTGGG AGGCTGGGAA ATAGTCTTTA
 GGTGGTGGC TATGTGCTAC TACAGAGACG ACTGACTGAC TGACTGGAAA GTCCTCTCCA CTGACTGTAG
 CCTCCAATTC ACTGGCCGTC GTTTTACAAC GTCGTGACTG GGAAAACCCCT GGCGTTACCC AACTTAATCG
 CCTTGACGCA CATCCCCCTT TCGCCAGCTG GCGTAATAGC GAAGAGGCCG GCACCGATCG CCCTTCCCAA
 CAGTTGCGCA GCCTGAATGG CGAATGGCGC CTGATGCGGT ATTTTCTCCT TACGCATCTG TCGGGTATTT
 CACACCGCAT ACGTCAAAGC AACCATAGTA CGCGCCCTGT AGCGGGCGCAT TAAGCGCGGC GGGTGTGGTG
 GTTACGCGCA GCGTGACCGC TACACTTGCC AGCGCCCTAG CGCCCGCTCC TTTTCGTTTC TTCCCTTCTT
 TTCTCGCCAC GTTCGCCGGC TTTCCCGTCC AAGCTCTAAA TCGGGGGCTC CCTTTAGGGT TCCGATTTAG
 TGCTTTACGG CACCTCGACC CCAAAAAACT TGATTTGGGT GATGGTTCAC GTAGTGGGCC ATCGCCCTGA
 TAGACGGTTT TTCGCCCTTT GACGTTGGAG TCCACGTTCT TTAATAGTGG ACTCTTGTTT CAAACTGGAA
 CAACACTCAA CCCTATCTCG GGCTATTCTT TTGATTATA AGGGATTTTG CCGATTTTCG CCTATTGGTT
 AAAAAATGAG CTGATTTAAC AAAAAATTA CGCGAATTTT AACAAAATAT TAACGTTTAC AATTTTATGG
 TGCACTCTCA GTACAATCTG CTCTGATGCC GCATAGTTAA GCCAGCCCGG ACACCCGCCA ACACCCGCTG
 ACGCGCCCTG ACGGGCTTGT CTGCTCCCGG CATCCGCTTA CAGACAAGCT GTGACCGTCA ACGGGAGCTG
 CATGTGTGAG AGGTTTTTAC CGTCATCACC GAAACGCGCG ACCCGAAAAG GCCTCGTGAT ACGCCTATTT
 TTATAGTTA ATGTCATGAT AATAATGGTT TCTTAGACGT CAGGTGGCAC TTTTCGGGGA AATGTGCGCG
 GAACCCCTAT TTGTTTATTT TTCTAAATAC ATTCAAATAT GTATCCGCTC ATGAGACAAT AACCCCTGATA
 AATGCTTCAA TAATATTGAA AAAGGAAGAG TATGAGTATT CAACATTTCC GTGTCGCCCT TATTCCTTTT
 TTTGCGGCAT TTTGCCTTCC TGTTTTTGT CACCCAGAAA CGCTGGTGAA AGTAAAAGAT GCTGAAGATC
 AGTTGGGTGC ACGAGTGGGT TACATCGAAC TGGATCTCAA CAGCGGTAAG ATCCTTGAGA GTTTTCGCC
 CGAAGAAGCT TTTCCAATGA TGAGCACTTT TAAAGTTCTG CTATGTGGCG CGGTATTATC CCGTATTGAC
 GCCGGGCAAG AGCAACTCGG TCGCCGCATA CACTATTCTC AGAATGACTT GTTTGAGTAC 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_001122834](#), [NM_001170564](#), [NM_001170580](#), [NM_001170587](#), [NM_001170588](#), [NM_018194](#)

UniProt ID:

[Q5VTY9](#)

Synonyms:

MART2; SKI1; Skn

Summary:

'Skinny hedgehog' (SKI1) encodes an enzyme that acts within the secretory pathway to catalyze amino-terminal palmitoylation of 'hedgehog' (see MIM 600725).[supplied by OMIM, Jul 2002]

Product images:

