

## Product datasheet for **KN204196**

### ERK1 (MAPK3) 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:** ERK1  
**Locus ID:** 5595  
**Components:** **KN204196G1**, ERK1 gRNA vector 1 in pCas-Guide CRISPR vector (GE100002), Target Sequence: GCCGACCCCTCGTTCTAC  
**KN204196G2**, ERK1 gRNA vector 2 in pCas-Guide CRISPR vector (GE100002), Target Sequence: AGAACCGAGGGGGTTCGGCCC  
**KN204196D**, 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 TCAAGAAGCTC 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 TTCTTCTCTG 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 TGCGTCTCAA
```



CCTAATTATT GCACCACTAC ACTCCAGCCT GGACGACAGA GAGAGACCCT GTCTCTATAA TAAAATAAAA  
 ACAGTCTAGG ACTCTGAGAG GCATGGAATT AGAAAGAGTC TCTGTGTCAG AAGACACCAT TTTGAGTCTC  
 AGCTGTCACT ACTAGTGACC TTACCCAAGT TAGTAAACCT AACTCTCAGA TTCTCCATCT GTAAAAATTTG  
 ATCCATTTAT TAGAACATTA TTTTAACT AGGGTGATCC CGGGCCCAGG TTCTGGTGGG CTGCCGCATA  
 CATTGGCTGG GTGGCTCTGG TAGGTCACGC CCTGGCCGCT TCGCCATCGA GGGGAGGGTG AGGACAGTCT  
 CCGAGGCGGC GCTGCCGAAC CTCCCCTGTA CCTGGAGGCC GCGGAGCCCG CAGGGACCCA TGGCCCCCGA  
 ACCTGGGCGA AGAAGGGCGG GCGCGCGCGG GCGGGGTACG GTGACAGCTC CAGGCCACAG CGGGGCCGGG  
 GCAAGGGCGG GGCCTGGCGG GCGCGGCCCT GCGGGTGACA GGCAGGCGGG AAGGGGCGGG GCCTCGGGCG  
 GGGCCGCCGT GGGGAGGAGG GCGGTGGGAG GGGAGGAGTG GAGTCTAGCA 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 GGCGGTACA CCAACACCCG CATCGAGAAG TACGAGGACG  
 GCGGCGTGCT GCACGTGAGC TTCAGCTACC GCTACGAGGC CGGCCGCGTG ATCGGCGACT TCAAGGTGAT  
 GGGCACCGGC TTCCCGAGG ACAGCGTGAT CTTACCCGAC AAGATCATCC GCAGCAACGC CACCGTGGAG  
 CACCTGCACC CCATGGGCGA TAACGATCTG GATGGCAGCT TCACCCGCAC CTTCAGCCTG CGCGACGGCG  
 GCTACTACAG CTCCGTGGTG GACAGCCACA TGCACTTCAA GAGCGCCATC CACCCAGCA TCCTGCAGAA  
 CGGGGGCCCC ATGTTCCGCT TCCGCCGCGT GGAGGAGGAT CACAGCAACA CCGAGCTGGG CATCGTGGAG  
 TACCAGCACG CCTTCAAGAC CCCGGATGCA GATGCCGGTG AAGAAAGAGT TTAAGAATTC CGATCATATT  
 CAATAACCCCT TAATATAACT TCGTATAATG TATGCTATAC GAAGTTATTA GGTCTGAAGA GGAGTTTACG  
 TCCAGCCAAG CTTAGGATCT CGACCTCGAA ATTCTACCGG GTAGGGGAGG CGTTTTTCCC AAGGCAGTCT  
 GGAGCATCGC CTTTAGCAGC CCCGTGGGC ACTTGGCGCT ACACAAGTGG CCTCTGGCCT CGCACACATT  
 CCACATCCAC CGGTAGGCGC CAACCGACTC CGTTCTTTGG TGGCCCTTC GCGCCACCTT CTRACTCTCC  
 CCTAGTCAGG AAGTTCCTCC CCGCCCGCA GCTCGCGTCG TGCAGGACGT GACAAAATGGA AGTAGCACGT  
 CTCACTAGTC TCGTGCAGAT GGACAGCACC GCTGAGCAAT GGAAGCGGGT AGGCCTTTGG GGCAGCGGCC  
 AATAGCAGCT TTGCTCCTTC GCTTTCTGGG CTCAGAGGCT GGAAGGGGT GGGTCCGGGG GCGGGCTCAG  
 GGGCGGGCTC AGGGGCGGGG CGGGCGCCG AAGGTCTCCT GGAGGCCCGG CATTCTGCAC GCTTCAAAAG  
 CGCACGTCTG CCGCGCTGTT CTCCTCTTCC TCATCTCCGG GCCTTTTCGAC CTGCATCCAT CTAGATCTCG  
 AGCAGCTGAA GCTTACCATG ACCGAGTACA AGCCACGGT GCGCCTCGCC ACCCGCAGC ACGTCCCCAG  
 GGGCGTACG ACCCTCGCG CCGCGTTCG CACTACCCG GCCACGCGCC ACACCGTCGA TCCGGACCGC  
 CACATCGAGC GGGTCACCGA GCTGCAAGAA CTCTTCTCA CGCGCGTCGG GCTCGACATC GGCAAGGTGT  
 GGGTCGCGGA CGACGGCGCC GCGGTGGCGG TCTGACCAC GCCGGAGAGC GTCGAAGCGG GGGCGGTGTT  
 CGCCGAGATC GGCCCGCGCA TGGCCGAGTT GAGCGGTTCC CGGCTGGCCG CGCAGCAACA GATGGAAGGC  
 CTCTGGCGC CGCACCGGCC CAAGGAGCCC GCGTGGTTCC TGGCCACCGT CGGCGTCTCG CCCGACCACC  
 AGGGCAAGGG TCTGGGCAGC GCCGTCGTGC TCCCCGAGT GGAGGCGGCC GAGCGCGCCG GGGTCCCCGC  
 TTCTCTGGAG ACCTCCGCGC CCCACAACCT CCCCTTCTAC GAGCGGCTCG GCTTCACCGT CACCGCCGAC  
 GTCGAGGTGC CCGAAGGACC GCGCACCTGG TGCATGACCC GCAAGCCCGG TGCCTGACGC CCGCCCCAG  
 ACCCGCAGCG CCCGACCGAA AGGAGCGCAC GACCCCATGC ATCGATGATA TCAGATCCCC GGGATGCAGA  
 AATTGATGAT CTATTAACA ATAAAGATGT CCACTAAAAT GGAAGTTTTT CCTGTACATC TTTGTTAAGA  
 AGGGTGAGAA CAGAGTACCT ACATTTTGAA TGAAGGATT GGAGCTACGG GGGTGGGGT GGGGTGGGAT  
 TAGATAAATG CCTGCTCTTT ACTGAAGGCT CTTTACTATT GCTTTATGAT AATGTTTCAT AGTTGGATAT  
 CATAATTTAA ACAAGCAAAA CCAAATTAAG GGCCAGCTCA TTCCTCCAC TCATGATCTA TAGATCTATA  
 GATCTCTCGT GGGATCATTG TTTTCTCTT GATTCCCACT TTGTGTTCT AAGTACTGTG GTTTCCAAAT  
 GTGTCAAGTT CATAGCCTGA AGAACGAGAT CAGCAGCCTC TGTTCCACAT ACACTTCATT CTCAGTATTG  
 TTTTGCCAAG TTCTAATTCC ATCAGAAGCT GGTCGAGATC CGGAACCCTT AATATAACTT CGTATAATGT  
 ATGCTATACG AAGTTATTAG GTCCTCGAA GAGGTTCACT AGGCGCGCCT **ACACGCAGTT** **GCAGTACATC**  
**GGCGAGGGCG** **CGTACGGCAT** **GGTCAGGTGA** **GGGGCGTTC** **CGGGGAGGG** **GGTGCCTCA** **GGGAGGGGG**  
**CTTCGCGGGA** **GAGGAGGAGG** **AGGCGCCGAG** **CGCTTTCGG** **GACGTGAGA** **CGCGGAGCGT** **CCCAGGAGG**  
**CAGGAGACTC** **GGGATGATCG** **GGAGCGTCCC** **AGGGAGGGGG** **CCCCTGAGTG** **CTTTCTGGGG** **GAGGGGGCGC**  
**TGCTACGTC** **CTCAGGGGAG** **CAGGCTTGGG** **GGCTTTGAGT** **CCACCCTTCT** **GTAATGATGG** **GAGGGGCATC**  
**CGAGTGATG** **TGGGGGCCCG** **CGGGGACCCT** **AGTGACACGG** **GCGGAGGCC** **AGAGGATGAG** **TACTCTCGGG**  
**GAGGCGACAT** **CCTAGTGAA** **GAGGCAGTGG** **AGGGCCCGT** **TTGGGGAAA** **GGGTGCTTG** **GATTCCCCCT**

```

GTGAGGCAGT GCCAGGGAGC CTGGGGGAGA AGAGCCGAGA TCAGGGTGGG GCAGGGCTTT GGCCCCACCA
CCCCAGGGGC CCAGAGAGAG ATGAGGCGGC CAGGAGTGCC ACCTGCATGT TTTGGGAGGG GTCTGTGAGT
GCCCCCGGCC CCACCGTGTA GCACAGTCTT CACTGACTGA CTGACTGGAA AGTCCTCTCC ACTGACTGTA
GCCTCCAATT CACTGGCCGT CGTTTTACAA CGTCGTGACT GGGAAAACCC TGGCGTTACC CAACTAATC
GCCTTGCAGC ACATCCCCTT TTCGCCAGCT GCGTAATAG CGAAGAGGCC CGCACCATC GCCCTTCCCA
ACAGTTGCGC AGCCTGAATG GCGAATGGCG CCTGATGCGG TATTTTCTCC TTACGCATCT GTGCGGTATT
TCACACCGCA TACGTCAAAG CAACCATAGT ACGCGCCCTG TAGCGGGCGA TTAAGCGCGG CGGGTGTGGT
GGTTACGCGC AGCGTGACCG CTACACTTGC CAGCGCCCTA GCGCCCGCTC CTTTCGCTTT CTTCCTTCC
TTTCTCGCCA CGTTCGCCGG CTTTCCCCTG CAAGCTCTAA ATCGGGGGCT CCCTTTAGGG TTCCGATTTA
GTGCTTTTACG GCACCTCGAC CCCAAAAAAC TTGATTTGGG TGATGGTTCA CGTAGTGGG CATCGCCCTG
ATAGACGGTT TTTCGCCCTT TGACGTTGGA GTCCACGTTT TTTAATAGTG GACTCTTGT CCAAATGGA
ACAACACTCA ACCCTATCTC GGGCTATTCT TTTGATTAT AAGGGATTTT GCCGATTTCC GCCTATTGGT
TAAAAAATGA GCTGATTTAA CAAAAATTA ACGCGAATTT TAACAAAATA TTAACGTTTA CAATTTTATG
GTGCACTCTC AGTACAATCT GCTCTGATGC CGCATAGTTA AGCCAGCCCC GACACCCGCC AACACCCGCT
GACGCGCCCT GACGGGCTTG TCTGCTCCG GCATCCGCTT ACAGACAAGC TGTGACCGTC AACGGGAGCT
GCATGTGTCA GAGGTTTTCA CCGTCATCAC CGAAACGCGC GACCCGAAAG GGCTCGTGA TACGCCTATT
TTTATAGGTT AATGTCATGA TAATAATGGT TTCTTAGACG TCAGGTGGCA CTTTTCGGGG AAATGTGCGC
GGAACCCCTA TTTGTTTATT TTTCTAAATA CATTCAAATA TGTATCCGCT CATGAGACAA TAACCTGAT
AAATGCTTCA ATAATATTGA AAAAGGAAGA GTATGAGTAT TCAACATTTT CGTGTGCCCC TTATTCCTT
TTTTGCGGCA TTTTGCCTT CTGTTTTTGC TCACCCAGAA ACGCTGGTGA AAGTAAAAGA TGCTGAAGAT
CAGTTGGGTG CACGAGTGGG TTACATCGAA CTGGATCTCA ACAGCGGTAA GATCCTTGAG AGTTTTCGCC
CCGAAGAACG TTTTCCAATG ATGAGCACTT TTAAGTTCT GCTATGTGGC GCGGTATTAT CCCGTATTGA
CGCCGGGCAA GAGCAACTCG GTCGCCGAT AACTATTCT CAGAATGACT TGGTTGAGTA CTCACCAGTC
ACAGAAAAGC ATCTTACGGA TGGCATGACA GTAAGAGAAT TATGCAGTGC TGCCATAACC ATGAGTGATA
ACACTGCGGC CAACTTACTT CTGACAACGA TCGGAGGACC GAAGGAGCTA ACCGCTTTTT TGCACAACAT
GGGGGATCAT GTAACCTGCC TT

```

**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\\_001040056](#), [NM\\_001109891](#), [NM\\_002746](#)

**UniProt ID:**

[P27361](#)

**Synonyms:**

ERK-1; ERK1; ERT2; HS44KDAP; HUMKER1A; p44-ERK1; p44-MAPK; P44ERK1; P44MAPK; PRKM3

**Summary:**

The protein encoded by this gene is a member of the MAP kinase family. MAP kinases, also known as extracellular signal-regulated kinases (ERKs), act in a signaling cascade that regulates various cellular processes such as proliferation, differentiation, and cell cycle progression in response to a variety of extracellular signals. This kinase is activated by upstream kinases, resulting in its translocation to the nucleus where it phosphorylates nuclear targets. Alternatively spliced transcript variants encoding different protein isoforms have been described. [provided by RefSeq, Jul 2008]

Product images:

