

Product datasheet for **KN316272**

Smad3 Mouse 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: Smad3
Locus ID: 17127
Components: **KN316272G1**, Smad3 gRNA vector 1 in pCas-Guide CRISPR vector (GE100002), Target Sequence: AGCAGGCGCTTCACGATCGG
KN316272G2, Smad3 gRNA vector 2 in pCas-Guide CRISPR vector (GE100002), Target Sequence: GGAGGAGAAGTGGTGCGAGA
KN316272D, 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 TCCCAGGCAAC 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 ACTGTCAAGC 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 TCAAGAACTC TGTAGCACCG CCTACATACC TCGCTCTGCT
AATCCTGTTA CCAGTGGCTG CTGCCAGTGG CGATAAGTCG TGTCTTACCG GGTTGGACTC 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 ATTTTTGTGA 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 GTTGTGTGGA ATTGTGAGCG GATAACAATT TCACACAGGA AACAGCTATG
ACCATGATTA CGCCAAGCTC CTTCTCTTTC CAGCCCTTCC TCTTCTACTG ACTGACTGAC TGGAAGACAC
```



ACCTCTCCCC GGAGCAGGGC GCGGGGGAGG AGCGGGGAGC CCCGGCAGCG AGGGGGCGGC GACTGCGCTG
 GGAAGGAGGC TGCACGCGGA GCTGCGTGAA ACGTAGACTT GGGAGCGGGC GGGAGAGGAG CGGGTAGCGC
 GGCTGCTCGG CCCTGGCTGG CCCTGCAAGG CGGCGATCGC AGAGGAGGAG GAGGAGGAGG AGCAGCGCTG
 CAGAGGCGGA GGGATCTGCG CACCAAAGCC ATCCAGGCCA GCAAAGTTTG GCTGGGGGTT GGACTTTTCT
 TCCCGGAGGC GGCACCCAAA CAGCTACCCC GTGCGGAAAC CCAAATTTT TACTGCCACT TGGAGTCTCG
 CGGCCGCGC CTCCGCCCGC CGCGTCCGGG GCCTGCCGTG CAGTCCGTG GTCCCGTGG AGCAGTCTCG
 GCGCCGCGT GCTCCCGATC CCCGCAGCTG CAGCGCCGCA GTCTTGCCCG GACGCCCCGG GCAAGTTCTC
 CAGAGTTAAA AGCGAAGTTC GGGCGAGGCG CGGGCCGAGC TGCCTCTGAG CGCCCCGGC GTCCCCAGTG
 CGCCAGCCC CGCCGGGGC GCCGGTGACC CTTCGGTGCC AGCCACTAGC ATGGAGAGCG ACGAGAGCGG
 CCTGCCCGCC ATGGAGATCG AGTGCCGCAT CACCGGCACC CTGAACGGCG TGGAGTTCGA GCTGGTGGGC
 GGCAGAGAGG GCACCCCGA GCAGGGCCGC ATGACCAACA AGATGAAGAG CACCAAAGGC GCCCTGACCT
 TCAGCCCTA CTGCTGAGC CACGTGATGG GCTACGGCTT CTACCACTTC GGCACCTACC CCAGCGGCTA
 CGAGAACCCC TTCCTGCACG CCATCAACAA CGGCGGCTAC ACCAACACCC GCATCGAGAA GTACGAGGAC
 GGGCGGCTG TGCACGTGAG CTTGAGCTAC CGCTACGAGG CCGGCCGCGT GATCGGCGAC TTCAAGGTGA
 TGGGACCCGG CTTCCCGAG GACAGCGTGA TCTTACCGA CAAGATCATC CGCAGCAACG CCACCGTGGG
 GCACCTGCAC CCCATGGGCG ATAACGATCT GGATGGCAGC TTCACCCGCA CCTTCAGCCT GCGCGACGGC
 GGCTACTACA GCTCCGTGGT GGACAGCCAC ATGCACTTCA AGAGCGCCAT CCACCCAGC ATCCTGCAGA
 ACGGGGGCCC CATGTTCCGC TTCGCGCGC TGGAGGAGGA TCACAGCAAC ACCGAGCTGG GCATCGTGGA
 GTACCAGCAC GCCTTCAAGA CCCCGGATGC AGATGCCGTG GAAGAAAGAG TTTAAGAATT CCGATCATAT
 TCAATAACCC TTAATATAAC TTCGTATAAT GTATGCTATA CGAAGTTATT AGGTCTGAAG AGGAGTTTAC
 GTCCAGCAA GCTTAGGATC TCGACCTCGA AATTCTACCG GGTAGGGGAG GCGCTTTTCC CAAGGCAGTC
 TGGAGCATGC GCTTAGCAG CCCCGCTGGG CACTTGGCGC TACACAAGTG GCCTCTGGC TCGCACACAT
 TCCACATCCA CCGTAGGCG CCAACCGACT CGGTTCTTTG GTGGCCCTT CGCGCCACT TCTACTCTC
 CCCTAGTCAG GAAGTTCGCC CCCGCCCGC AGCTCGGTC GTGCAGGACG TGACAAATGG AAGTAGCACG
 TCTCACTAGT CTCGTGCAGA TGGACAGCAC CGCTGAGCAA TGGAAAGCGG TAGGCCTTTG GGGCAGCGG
 CAATAGCAGC TTTGCTCCTT CGCTTTCTGG GCTCAGAGG TGGGAAGGGG TGGTCCGGG GGCGGGCTCA
 GGGGCGGGCT CAGGGGCGGG GCGGGCGCCC GAAGTCTC CGGAGGCCCG GCATTCTGCA CGCTTCAAAA
 GCGCAGTCT GCCGCGCTGT TCTCCTTTC CTCATCTCCG GGCCTTTTGA CCTGCATCCA TCTAGATCTC
 GAGCAGTGA AGCTTACCAT GACCGAGTAC AAGCCCACGG TGGCCTCGC CACCCGCGAC GACGTCCCA
 GGGCCGTACG CACCCTCGC GCCGCTTCC CCGACTACC CGCCACGCG CACACCGTCG ATCCGGACCG
 CCACATCGAG CGGGTACCG AGCTGCAAGA ACTCTTCTC ACGCGCGTCG GGCTCGACAT CGGCAAGGTG
 TGGTTCGCGG ACGACGGCGC CGCGGTGGCG GTCTGGACCA CGCCGGAGAG CGTCGAAGCG GGGGCGGTGT
 TCGCCGAGAT CGGCCCGCGC ATGGCCGAGT TGAGCGGTTT CCGGCTGGCC GCGCAGCAAC AGATGGAAGG
 CCTCTGGCG CGCACCGGC CCAAGGAGCC CGCGTGTTT CTGGCCACC TCGGCGTCTC GCCCGACCAC
 CAGGGCAAGG GTCTGGGCG CGCCGTCTGT CTCCCGGAG TGGAGGCGGC CGAGCGCGCC GGGGTGCCCG
 CCTTCTGGA GACCTCCGCG CCCACAACC TCCCCTTCTA CGAGCGGCTC GGCTTACC GTCACCGCGA
 CGTCGAGGTG CCCGAAGGAC CGCGCACCTG GTGCATGACC CGCAAGCCCG GTGCCTGACG CCCGCCAC
 GACCCGACG GCCCGACCGA AAGGAGCGCA CGACCCATG CATCGATGAT ATCAGATCCC CGGGATGCAG
 AAATTGATGA TCTATTAAC AATAAAGATG TCCACTAAA TGGAAAGTTT TCCTGCATA CTTTGTAAAG
 AAGGGTGAGA ACAGAGTACC TACATTTTGA ATGGAAGGAT TGGAGTACG GGGGTGGGG TGGGTGGGA
 TTAGATAAT GCCTGCTCTT TACTGAAGGC TCTTACTAT TGCTTTATGA TAATGTTTCA TAGTTGATA
 TCATAATTA AACAAAGCAA ACCAAATTAA GGGCCAGCTC ATTCCTCCA CTCATGATCT ATAGATCTAT
 AGATCTCTCG TGGATCATT GTTTTTCTCT TGATTCCAC TTTGTGGTTC TAAGTACTGT GGTTCACAAA
 TGTGTCAGTT TCATAGCCTG AAGAACGAGA TCAGCAGCCT CTGTTCCACA TACACTTCAT TCTCAGTATT
 GTTTTGCAA GTTCTAATC CATCAGAAGC TGGTCGAGAT CCGGAACCCT TAATATAACT TCGTATAATG
 TATGCTATAC GAAGTTATTA GGTCCCTCGA AGAGTTTAC TAGGCGCGCC CTGGAGAAGG CCATCACCAC
 GCAGAACGTG AACACCAAGT GCATTACCAT CCCAGGTGG GGTCCAGAG CGGCTGGGG CGCACTGGCC
 CAGCCCCCTA GCGCGGCCCG GGTGGAGAGG GAGGGCGTGT GCGCGTGTGT GCGCGCCCT GTAGGGGACG
 GGGAGTGGT GGAGGGACCC CAAACAAAAC CTTCGGATTT GCCTAGCCTC AGAGACCTGG CTTCCGTGCA
 GCATTTTGGC TTCTAGACCT CAAGGGTCGC CAGCTGCTT CCGGCAGCAG GGGTGTCTT GAGCTTGGCC
 CCCAACTCT CGGGGCTTCG GGCTCAAAGT GGAGGCCCG CTTTGTTCG CTCTGCCGC CGAGCCCCC
 CTCTCCGCC GCCTCCGCC CCGCGCTCGT GGAGGTGGT GCGTGTGTC CTTTCTTTT TTCAGTCTG

```

TTCCCCACT TCTTTCTC GTCTACAGGA ATGCAGTCGG TACAGCTGTG GGTGAGGAGC GGGAGCCCGT
TGATTGACAG ATTCCTTCTT CGCTCTTTCT TTGCTTTGGG ATTAGCATTI TTAAGTAGTA TTTTGTAGAT
TGGTTGTGCC AGCCTCCCGC ACGACAGTCT TCACTGACTG ACTGACTGGA AAGTCCTCTC CACTGACTGT
AGCCTCCAAT TCACTGGCCG TCGTTTTACA ACGTCGTGAC TGGGAAAACC CTGGCGTTAC CCAACTTAAT
CGCCTTGACAG CACATCCCC TTTGCGCCAGC TGGCGTAATA GCGAAGAGGC CCGCACCGAT CGCCCTTCCC
AACAGTTGCG CAGCCTGAAT GCGGAATGGC GCCTGATGCG GTATTTTCTC CTTACGCATC TGTGCGGTAT
TTCACACCGC ATACGTCAA GCAACCATAG TACGCGCCCT GTAGCGGCGC ATTAAGCGCG GCGGGTGTGG
TGGTTACGCG CAGCGTGACC GCTACACTTG CCAGCGCCCT AGCGCCCGCT CCTTTCGCTT TCTTCCCTTC
CTTTCTCGCC ACGTTCGCGG GCTTTCGCCG TCAAGCTCTA AATCGGGGGC TCCCTTTAGG GTTCCGATTT
AGTGCTTTAC GGCACCTCGA CCCCAAAAAA CTTGATTTGG GTGATGGTTC ACGTAGTGGG CCATCGCCCT
GATAGACGGT TTTTGCCTT TTAGCGTTGG AGTCCACGTT CTTAATAGT GGACTCTTGT TCCAACTGG
AACAACTCT AACCTATCT CGGGCTATTC TTTTGATTTA TAAGGGATTT TGCCGATTTT GGCCTATTGG
TTAAAAATG AGCTGATTTA ACAAAAAATTT AACGCGAATT TTAACAAAAT ATTAACGTTT ACAATTTTAT
GGTGCCTCT CAGTACAATC TGCTCTGATG CCGCATAGTT AAGCCAGCCC CGACACCCGC CAACACCCGC
TGACGCGCCC TGACGGGCTT GTCTGCTCCC GGCATCCGCT TACAGACAAG CTGTGACCGT CAACGGGAGC
TGCATGTGTC AGAGGTTTTT ACCGTCATCA CCGAAACGCG CGACCCGAAA GGGCCTCGTG ATACGCCTAT
TTTTATAGGT TAATGTCATG ATAATAATGG TTTCTTAGAC GTCAGGTGGC ACTTTTCGGG GAAATGTGCG
CGGAACCCCT ATTTGTTTAT TTTTCTAAAT ACATTCAAAT ATGTATCCGC TCATGAGACA ATAACCCTGA
TAAATGCTTC AATAATATTG AAAAAGGAAG AGTATGAGTA TTCAACATTT CCGTGTGCGC CTTATTCCTT
TTTTTGCGGC ATTTTGCCTT CCTGTTTTTG CTCACCCAGA AACGCTGGTG AAAGTAAAAG ATGCTGAAGA
TCAGTTGGGT GCACGAGTGG GTTACATCGA ACTGGATCTC AACAGCGGTA AGATCCTTGA GAGTTTTGCG
CCGAAGAAG GTTTTCCAAT GATGAGCACT TTTAAAGTTC TGCTATGTGG CGCGGTATTA TCCCGTATTG
ACGCCGGGCA AGAGCAACTC GGTCGCCGCA TACACTATTC TCAGAAATGAC TTGGTTGAGT ACTCACCAGT
CACAGAAAAG CATCTTACGG ATGGCATGAC AGTAAGAGAA TTATGCAGTG CTGCCATAAC CATGAGTGAT
AACACTGCGG CCAACTTACT TCTGACAACG ATCGGAGGAC CGAAGGAGCT AACCGCTTTT TTGCACAACA
TGGGGGATCA TGTAACCTCG CTT

```

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_016769](#)

UniProt ID:

[Q8BUN5](#)

Synonyms:

AU022421; Madh3

Summary:

Receptor-regulated SMAD (R-SMAD) that is an intracellular signal transducer and transcriptional modulator activated by TGF-beta (transforming growth factor) and activin type 1 receptor kinases. Binds the TRE element in the promoter region of many genes that are regulated by TGF-beta and, on formation of the SMAD3/SMAD4 complex, activates transcription. Also can form a SMAD3/SMAD4/JUN/FOS complex at the AP-1/SMAD site to regulate TGF-beta-mediated transcription. Has an inhibitory effect on wound healing probably by modulating both growth and migration of primary keratinocytes and by altering the TGF-mediated chemotaxis of monocytes. This effect on wound healing appears to be hormone-sensitive. Regulator of chondrogenesis and osteogenesis and inhibits early healing of bone fractures. Positively regulates PDPK1 kinase activity by stimulating its dissociation from the 14-3-3 protein YWHAQ which acts as a negative regulator (By similarity).[UniProtKB/Swiss-Prot Function]

Product images:
