**S7 Table.** The sequences of sgRNAs, lssDNA templates, primers and probes employed in this study.

| Name | Reagent type | Sequence (5'-3') | Project |
|---|---|---|---|
| *6430573F11Rik* _flox_lssDNA | lssDNA donor | TTGTTAACATGAAACCTGAATAATCCCCTTTGTGTCAGGAGGATCTGACCTGATCTCAATATAGCAAAGTACATTTTCAATGAGTA<br>GGCGC*ACTGATGGCGAGCTCAGACCCGCCGGCG* ATAACTTCGTATAATGTATGCTATACGAAGTTATAAATAACACAATAACAGC<br>CTGAAAGTTGAAAGTTAAAACCGCTTACATATCATAACTGTATTAGGCAGGAGTCAAATAAGTCATGCGACAGAGTGTGTATATTT<br>TAAATTTAGACAAAATGCATTGCATAGACCTCTATACAGAATGGACATTGAGTCATGTGAGTTGTCTGATTGTGGGTTTTTTTTTT<br>TCATGGCAAAGTATGAAAGCCTGGCTGCCTTACCTCCTATGGAGATGATAGCATCGAAGCCCTGGTCCCTAAAGGGAAGATTAAG<br>GTTGTCACATACCATGACTTCACACCCTCTATTCCGGGCAATCTCTACCAGAGGCCCACAGTAGTCACAGCCCAGAGTATGGACTT<br>GGCTATTCACTTTAAGATACTTTCCAGTTCCACAACCTGTAAGAGAAAAACCAGCGTCACATGCTGTCCTTCCTGGAACGATGCAA<br>GTTAATGTGTGCTGTAATGGATGAACTTTATAGTAAATGACCAAGATGCAACACTTCAGAGAACACTTACGTATTGTTTCATACAC<br>AAGAGAGGAAATGTATGGAATATTTATTGAAGCATTGCCCATGGAGCTCAGCACAGTAGCACAACCTAATCTCATGAGCTGGCTC<br>ATCCCTGAGAAACAAAAGCTATGACATCCGGAAACTGGGGTTAACCATGAGGGGTCGTTGTCTTCATAGTGACGTATGCATTTTA<br>CTTTGTGTGTGTGTGCTGTCTCAAATGTCTGTTTCAATGGGTCTTATCAATTTCTGACCTTGTTGAACAAATTACTGCTAACAACTTT<br>TGAATGTCTATGAAGAGAAAAATCTAGGCAACAAAATGTGGCTTTTAAGAAACACGACTGTGACTGAAGAAGAAACATCTTCATA<br>ACTTCGTATAATGTATGCTATACGAAGTTAT*GCGATCGCCTCGACGCGGTACCCCCGGAT* AAGTCCAGATGATTTTTGACATTCAT<br>TTCCTAGTGGCAGAAGCCCAAGTATCCAATCCAAAGACTGAGATCAAACATTATAGTATGATAGAGAGTAACA | *6430573F11Rik* flox |
| *6430573F11Rik* _5_1 | gRNA | GCTATTAACCTAAGAATGTG (PAM:TGG) | *6430573F11Rik* flox |
| *6430573F11Rik* _5_2 | gRNA | TTAGGTTAATAGCAGGTACA (PAM:AGG) | *6430573F11Rik* flox |
| *6430573F11Rik* _3_1 | gRNA | TGTTTCGCTACATGCAAGAA (PAM:GGG) | *6430573F11Rik* flox |
| *6430573F11Rik* _3_2 | gRNA | CTTGCATGTAGCGAAACACA (PAM:TGG) | *6430573F11Rik* flox |
| Geno_*6430573F11Rik* _F1 | primer | CCTTGAGCCCAGGAGTTCAG | *6430573F11Rik* flox |
| Geno_*6430573F11Rik* _R1 | primer | ATCTGGGACCAGGTAGGGTC | *6430573F11Rik* flox |
| Geno_*6430573F11Rik* _F2 | primer | GACAACGACCCCTCATGGTT | *6430573F11Rik* flox |
| Geno_*6430573F11Rik* _R2 | primer | TCTCATGCATCTGTGCGTGT | *6430573F11Rik* flox |
| Geno_*6430573F11Rik* _F3 | primer | ACCCACCTCTGGGACCTAAT | *6430573F11Rik* flox |
| Geno_*6430573F11Rik* _R3 | primer | CGAAGCCCTGGTCCCTAAAG | *6430573F11Rik* flox |
| *6430573F11Rik* _RNA_R | primer | TTGTTAACATGAAACCTGAATA | *6430573F11Rik* flox |
| *6430573F11Rik* _UNIV_copy_counting_forward | ddPCR primer | GGTAGAGATTGCCCGGAATAGAG | *6430573F11Rik* flox |
| *6430573F11Rik* _UNIV_copy_counting_reverse | ddPCR primer | CGAAGCCCTGGTCCCTAAAG | *6430573F11Rik* flox |
| *6430573F11Rik* _UNIV_copy_counting_probe | ddPCR probe | TGTGAAGTCATGGTATGTGACAACCTTA | *6430573F11Rik* flox |
| *6430573F11Rik* _MUT_copy_counting_forward | ddPCR primer | GGTCTGAGCTCGCCATCAG | *6430573F11Rik* flox |
| *6430573F11Rik* _MUT_copy_counting_reverse | ddPCR primer | CCCTTTGTGTCAGGAGGATCTG | *6430573F11Rik* flox |
| *6430573F11Rik* _MUT_copy_counting_probe | ddPCR probe | TGCGCCTACTCATTGAAAATGTACTTTGC | *6430573F11Rik* flox |
| Nano_*6430573F11Rik* _F3 | Nanopore tailed primer | TTTCTGTTGGTGCTGATATTGCACCCACCTCTGGGACCTAAT | *6430573F11Rik* flox |
| Nano_*6430573F11Rik* _R2 | Nanopore tailed primer | ACTTGCCTGTCGCTCTATCTTCTCTCATGCATCTGTGCGTGT | *6430573F11Rik* flox |
| Nano_*Acvr2b* _F1 | Nanopore tailed primer | TTTCTGTTGGTGCTGATATTGCGTGCCAGTGGATTGAGGTGC | WT Nanopore trial |
| Nano_*Acvr2b* _R1 | Nanopore tailed primer | ACTTGCCTGTCGCTCTATCTTCAAGTAGAGAGCCAGGTTTGGTG | WT Nanopore trial |
| Nano_*Clrn2* _F1 | Nanopore tailed primer | TTTCTGTTGGTGCTGATATTGCACGAGCTCACTCAACCCCTAA | WT Nanopore trial |
| Nano_*Clrn2* _R1 | Nanopore tailed primer | ACTTGCCTGTCGCTCTATCTTCTGAAGGTCCGCCTTTGACCA | WT Nanopore trial |
| *Cx3cl1* _flox_lssDNA | lssDNA donor | AGCTCCTCCACCTCCTCTCACCCTGCTGCTACCCATCTCCTGCTGGAGTCTGGATCCTGCTCTAGTAGGCCACTTCCCTCAACCTCCC<br>CCATGGGATCTA*ACTGATGGCGAGCTCAGACCCGCCGGCG* ATAACTTCGTATAATGTATGCTATACGAAGTTATCATCCAGGAAA<br>CCATTTCCCACCTCTGTTGTTTACCACTGATCTTAAGGTCAGCGAGGAGATAGCCTGTGGGCCTGAAACAAGGCCCACACTTACTA<br>AGGCCTTTGGCAGGAAGCCCAGGGTGAGGAGGGGGAGAGGGAGGGCTGGAATGTCCTAGGGCCTCTGGGGGTTGAAAGGGAT<br>ACCTACACAATGGCACGCTTGCCGCAGGACTCCTGGTTTAGCTGATAGCGGATGAGCAAAGCCACTGGGATTCGTGAGGTCATCT<br>TGTCGCACATGATTTCGCATTTCGTCATGCCGAGGTGCTGACCTGGATCCACAGAGGCCAGCAGTCAGTAGGACCCCTGGGCATC<br>TGGTGCCCCATACCCATTTCAGCTCCTCGAGGCTATACTCCCAAGCCAGAATCCACATCTAACCCAACCCGTGATAACCTGCCAGA<br>CAGCAAGAGTCTCAGCCTCTGGGGTTGTTTTGGACTGATAAAAAATTAGCCTTTATTTATAAATCTCATTTTGCCTGATACCTGGGA<br>ATCATTTCATTTTGTTGTGTTGTTGTTGTTGTTATTTTGAGACAAGGTCTCTAGGTAGCTCTGGCTATCCTGGTACTCATTAAGACAA<br>TCAGACTGGCTTTGAGCTCATCAAGATCTGCTTGCCACTGCCTCCCAAGTGCTGGGATTAAAGATGCGGACCACAACTCCTGGCCT<br>GGAAACGTTTAATTATAACTTCGTATAATGTATGCTATACGAAGTTAT*GCGATCGCCTCGACGCGGTACCCCCGGA* TACCCCTACG<br>GCATTGCCTTCCTTGCTCATCCCTGTCTTGTGCTCAATTAAGTCAAGGGCTCAGCAATCACCCTACACATGCATCCTCCTCCTCCAC<br>ACAC | *Cx3cl1* flox |
| *Cx3cl1* _5_1 | gRNA | CAATGCCGTAGGGGTGGAAC (PAM:AGG) | *Cx3cl1* flox |

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|---|---|---|---|
| *Cx3cl1* _5_2 | gRNA | CATAGCGGGGAGAGGAATCT (PAM:AGG) | *Cx3cl1* flox |
| *Cx3cl1* _3_1 | gRNA | TGGATGGCTCACCGTGGTTC (PAM:AGG) | *Cx3cl1* flox |
| *Cx3cl1* _3_2 | gRNA | CCTCCCCCATGGGATCTAGT (PAM:GGG) | *Cx3cl1* flox |
| Geno_*Cx3cl1* _F1 | primer | ACAACGCAGGCCGATAGAAA | *Cx3cl1* flox |
| Geno_*Cx3cl1* _R1 | primer | ACTCGGGACTGAGCAAACAG | *Cx3cl1* flox |
| Geno_*Cx3cl1* _F2 | primer | GAACACAGGGGGATCTGCTC | *Cx3cl1* flox |
| Geno_*Cx3cl1* _R2 | primer | ATCATTTCCTGCACGGCTGA | *Cx3cl1* flox |
| *Cx3cl1* _RNA_R | primer | AGCTCCTCCACCTCCTCTCA | *Cx3cl1* flox |
| Geno_*Cx3cl1* _R3 | primer | ACTGACTGAGCCTGTTTCCTC | *Cx3cl1* flox |
| Geno_Int_*Cx3cl1* _F4 | primer | TGTCTGGCAGGTTATCACGG | *Cx3cl1* flox |
| Geno_Int_*Cx3cl1* _R4 | primer | GCTGACCTGGATCCACAGAG | *Cx3cl1* flox |
| *Cx3cl1* _UNIV_copy_counting_forward | ddPCR primer | CGGCATGACGAAATGCGAAATC | *Cx3cl1* flox |
| *Cx3cl1* _UNIV_copy_counting_reverse | ddPCR primer | GCAGGACTCCTGGTTTAGCT | *Cx3cl1* flox |
| *Cx3cl1* _UNIV_copy_counting_probe | ddPCR probe | TGTGCGACAAGATGACCTCACGA | *Cx3cl1* flox |
| Nano_*Cx3cl1* _F1 | Nanopore tailed primer | TTTCTGTTGGTGCTGATATTGCACAACGCAGGCCGATAGAAA | *Cx3cl1* flox |
| Nano_*Cx3cl1* _R1 | Nanopore tailed primer | ACTTGCCTGTCGCTCTATCTTCACTCGGGACTGAGCAAACAG | *Cx3cl1* flox |
| LoxP F | genotyping primer | ATCCGGGGGTACCGCGTCGAG | Generic |
| LoxP R | genotyping primer | ACTGATGGCGAGCTCAGACC | Generic |
| Cre_F1 | genotyping primer | CGTTTTCTGAGCATACCTGGA | Generic |
| Cre_R1 | genotyping primer | ATTCTCCCACCGTCAGTACG | Generic |
| Cre_F2 | genotyping primer | AAACGTTGATGCCGGTGAAC | Generic |
| Cre_F3 | genotyping primer | CGCGCTGGAGTTTCAATACC | Generic |
| Cre_copy_counting_forward | ddPCR primer | CGCAAGAACCTGATGGACATG | Generic |
| Cre_copy_counting_reverse | ddPCR primer | ACCGGCAAACGGACAGAA | Generic |
| Cre_copy_counting_probe | ddPCR probe | TTCAGGGATCGCCAGGCGTTT | Generic |
| *Dot1l* _copy_counting_forward | ddPCR reference assay primer | GCCCCAGCACGACCATT | Generic |
| *Dot1l* _copy_counting_reverse | ddPCR reference assay primer | TAGTTGGCATCCTTATGCTTCATC | Generic |
| *Dot1l* _copy_counting_probe | ddPCR reference assay probe | CCAGCTCTCAAGTCG | Generic |
| *Hnf1a* _flox_lssDNA | lssDNA donor | TCTGTGTCTCATTATATAATGATCTCTCTCCCATTCAGCAGAGAGTGAGTTCCTGGAGGGAGGACCCCAGTGTGTGTACCCATTCT GCTTCCTTCCCTT*GACTGATGGCGAGCTCAGACCCGCCGGCG* ATAACTTCGTATAATGTATGCTATACGAAGTTAT AGAAAGTCTG AGGACGCCTTTCTGGCCCCTCTCAGTCTCATGTGTCTGTGAGATGGAAGAGGGGGTGACACTGCCACCCTATGAGCTATGGGACG ACCCCCTCTGAGGCCCTGGCAAGGGAGGAGGACCCAGGCTGGGGTCGTTACTTACGCTGAGCCACCTCTCGCTGCTTGCGGACG TACCAGGTGTACAGAGCGGCCCGCTTCTGTGTCTTCATGGGTGTGCCCTTGTTGAGGTGCTGTGACAGGTGGGACTGGTTGAGAC CCGTGGTGTCCACCACCTCCCGCTGGGGGATGTTGTGCTGCTGCAAGTACGACTTGACCATCTTCGCCACGCGCCATGGGTCCTC CCTGGGGGAGCAGGGGAGCAATGACCGGGTCTGCTCAATGGCCCTTCCTGACATCTTAGGTGAGGCTGGGGTTCTGGAGACTAG GGCTTTCCTCTGTGGGTAGGACACATGTATACATGGACAGATTCCCGCTAGAGGTTGTGCCAGCCAAGTAGGGAGGACCCTCCTT CTCTCTGCTGAACCTGGAAGTGTTATATGATGCTTTTTGAAGTATGTG ATAACTTCGTATAATGTATGCTATACGAAGTTAT *GCGA TCGCCTCGACGCGGTACCCCCGGAT* GTGTGGAGCTCAGTTCTCCTTGCACCTTTACATGGGTCCGGCAGATTGAACTCAAGCCACT AGGCTTCTGCAGCAAGGGCTTCTACCTGCCAAGCCATCC | *Hnf1a* flox |
| *Hnf1a* _5_1 | gRNA | GCACATGTATGCACTTGCGT (PAM:GGG) | *Hnf1a* flox |
| *Hnf1a* _5_2 | gRNA | TGCACATGTATGCACTTGCG (PAM:TGG) | *Hnf1a* flox |
| *Hnf1a* _3_1 | gRNA | CCCTTGGCACCTTGTGCAAA (PAM:AGG) | *Hnf1a* flox |
| *Hnf1a* _3_2 | gRNA | CCTTTTGCACAAGGTGCCAA (PAM:GGG) | *Hnf1a* flox |
| Geno_*Hnf1a* _F1 | primer | TCCATGGCATATTCTGTGTCAA | *Hnf1a* flox |
| Geno_*Hnf1a* _R1 | primer | TTGCAACGTCCTCCCTTAGAC | *Hnf1a* flox |
| Geno_*Hnf1a* _F2 | primer | TCTGTGTCAAGTTCACTTTGGGTT | *Hnf1a* flox |
| Geno_*Hnf1a* _R2 | primer | CCTCCCACCATCAGCTCAGT | *Hnf1a* flox |
| *Hnf1a* _RNA_R | primer | TCTGTGTCTCATTATATAAT | *Hnf1a* flox |
| *Hnf1a* _MUT5_copy_counting_forward | ddPCR primer | CGATCGCATAACTTCGTATAGCATACAT | *Hnf1a* flox |
| *Hnf1a* _MUT5_copy_counting_reverse | ddPCR primer | CATGGACAGATTCCCGCTAGAG | *Hnf1a* flox |

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|---|---|---|---|
| *Hnf1a* _MUT5_copy_counting_probe | ddPCR probe | AGCATCATATAACACTTCCAGGTTCAGCAGA | *Hnf1a* flox |
| *Hnf1a* _MUT3_copy_counting_forward | ddPCR primer | GGCGTCCTCAGACTTTCTATAACTTC | *Hnf1a* flox |
| *Hnf1a* _MUT3_copy_counting_reverse | ddPCR primer | TGCTTCCTTCCCTTGACTGATG | *Hnf1a* flox |
| *Hnf1a* _MUT3_copy_counting_probe | ddPCR probe | AAGTTATCGCCGGCGGGTCTGA | *Hnf1a* flox |
| *Hnf1a* _UNIV_copy_counting_forward | ddPCR primer | CACCACGGGTCTCAACCA | *Hnf1a* flox |
| *Hnf1a* _UNIV_copy_counting_reverse | ddPCR primer | GCCCGCTTCTGTGTCTTCA | *Hnf1a* flox |
| *Hnf1a* _UNIV_copy_counting_probe | ddPCR probe | CCCACCTGTCACAGCACCTCAA | *Hnf1a* flox |
| Nano_*Hnf1a* _F1 | Nanopore tailed primer | TTTCTGTTGGTGCTGATATTGCTCCATGGCATATTCTGTGTCAA | *Hnf1a* flox |
| Nano_*Hnf1a* _R1 | Nanopore tailed primer | ACTTGCCTGTCGCTCTATCTTCTTGCAACGTCCTCCCTTAGAC | *Hnf1a* flox |
| *Inpp5k* _flox_ssDNA | lssDNA donor | TAGCAAGTGCTACACTCAAGAGATTTCATGCTGGGCAGTAAGGAGAGACCAGAGGGTAGGCCAGGAATAAGACTGAGAAAACA<br>TCTAGGTGTGAAGCTAA*ACTGATGGCGAGCTCAGACCCGCCGGCG* ATAACTTCGTATAATGTATGCTATACGAAGTTATAGCCAA<br>GTGTAGTGTGAGCTTTAAACCTTTTGATGAATGGAAAAGAACATGAAAAGCCAAGTGGAAGAAAGAGGAGTACATCAGACAAAC<br>ACTTAGCTGCATGGGAGAAAGGGAAACGCATCAGACAAGCGACTCAAGTCAGCGCAGGTGAAACACATTCCTCCACTGCCCAGA<br>AATTTAACTTACCTTGACAAAGTTCAGTGGGGAAAGCATATCCATGAAGAGACTGCTCCATGGGTCTTCAAAAGCAGCATCAGAA<br>AGAAGGCTTATGATTCCAAAATTCATTTCCTGCAAACTGACCATTCCAAGGCAGAGGATCACCCCTGGCCTGGAGGATACTGACTC<br>TCCCACAGCCATCATCAGACTCTCAGGCCTGCATTCTGAAGACCAAGAGGCCTCCCTTTCCTAGCTGTGTGGCTGTTGACCTCCAA<br>CCCATAACCATTGCTGACCCAGGACAAGAAACACAAGACTGGACCCAGGGAGGATGAAAGCTCCTCCCCTTCAGACTCTAACACA<br>AGCGAGGACAGGTTACATCAGCCCTCTACAGGGATAGGGGGTGCAGGGGCCCTTCAGACACTTACCCAATGATATATATGTCCA<br>GATTCAGGTCTTGGTTGTTCAGTTGAAGTAGGTCACTGAGGTCTACAGTGGGGGCTGCGGAGGCCACATTCCACGTCACAACATG<br>TACGCTGTGGAAAGGATGTTAAGTCACAGGGGATGGAGGCTAAGATTTTTCCAGATAGCAGGCAAAGACCTAGGTATGTGCAAG<br>GCTTCCGCTGCAGTGATCATGGGAAATGTGTCTGCATGTTTGTTTGTTTGGTGCTTTTGAGGCTGTGTCTCACTATGCAGCCCTGG<br>CTGGCCTCAACTCCTTACGGAGATCAGCCTTCTTCTGCCTCCTAAATTCTGAGATTAACGTTGTTAATCTCACTATGCCCAGCTTGCT<br>TCTGCATCGTGTGGTAGGAAAGAGGAAAAGGAGCAGTGGATTACCCAGCTTTCACCTTCCCTTTCATGCCTGGAAAGCAGGAATC<br>TCTTCCCTCCCTCCAACTGGCTCTTCTAGGCAGGTTTACAGATAACTTCGTATAATGTATGCTATACGAAGTTAT*GCGATCGCCTCG*<br>*ACGCGGTACCCCCGGAT* GAAAGAATGATTGCGTTTGAGAGACAGGAACCTATTAGCCCCTCCAGCTACAGAAACCTCACTCATCC<br>TCTGTGGCCCAGTCAGCAACTCTGCATGCTTA | *Inpp5k* flox |

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|---|---|---|---|
| *Inpp5k* _5_1 | gRNA | TGCCAGGTACTGCCAGCTAT (PAM:GGG) | *Inpp5k* flox |
| *Inpp5k* _5_2 | gRNA | GGTTTACAGTCGCCCATAGC (PAM:TGG) | *Inpp5k* flox |
| *Inpp5k* _3_1 | gRNA | CTAGGTGTGAAGCTAACCCC (PAM:TGG) | *Inpp5k* flox |
| *Inpp5k* _3_2 | gRNA | AGTCTGAGCGATGAGTCCAG (PAM:GGG) | *Inpp5k* flox |
| Geno_*Inpp5k* _F1 | primer | GCAGGATTTGTTGTGTGCCA | *Inpp5k* flox |
| Geno_*Inpp5k* _R1 | primer | TTCGGATCTTGGAGAGCCC | *Inpp5k* flox |
| *Inpp5k* _RNA_R | primer | TAGCAAGTGCTACACTCAAGAG | *Inpp5k* flox |
| *Inpp5k* _UNIV_copy_counting_forward | ddPCR primer | AGCAAGCTGGGCATAGTGAG | *Inpp5k* flox |
| *Inpp5k* _UNIV_copy_counting_reverse | ddPCR primer | GGCTGGCCTCAACTCCTTA | *Inpp5k* flox |
| UPL_Probe 29 | ddPCR probe | GGCAGAAG | *Inpp5k* flox |
| Nano_*Inpp5k* _F1 | Nanopore tailed primer | TTTCTGTTGGTGCTGATATTGCGCAGGATTTGTTGTGTGCCA | *Inpp5k* flox |
| Nano_*Inpp5k* _R1 | Nanopore tailed primer | ACTTGCCTGTCGCTCTATCTTCTTCGGATCTTGGAGAGCCC | *Inpp5k* flox |

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|---|---|---|---|
| *Mpeg1* _Cre_ssDNA | lssDNA donor | GCCTAAGAAAATACTGCCAGGGTTGTAATAGCTGCTTTCTTCCTATGGCGACTGTCACTTCAGTCACTTAGGAAGGCAGAAGTAG<br>AGAAAACAAAGCAAAAGATGTGCTTGAAGCTGTGGCTGGAAACTGTTTCCTTTGGAGACAA**TCAATCGCCATCTTCCAGCAGGC**<br>**GCACCATTGCCCCTGTTTCACTATCCAGGTTACGGATATAGTTCATGACAATATTTACATTGGTCCAGCCACCAGCTTGCATGA**<br>**TCTCCGGTATTGAAACTCCAGCGCGGGCCATATCTCGCGCGGCTCCGACACGGGCACTGTGTCCAGACCAGGCCAGGTATCTC**<br>**TGACCAGAGTCATCCTTAGCGCCGTAAATCAATCGATGAGTTGCTTCAAAAATCCCTTCCAGGGCGCGAGTTGATAGCTGGCT**<br>**GGTGGCAGATGGCGCGGCAACACCATTTTTTCTGACCCGGCAAAACAGGTAGTTATTCGGATCATCAGCTACACCAGAGACG**<br>**GAAATCCATCGCTCGACCAGTTTAGTTACCCCCAGGCTAAGTGCCTTCTCTACACCTGCGGTGCTAACCAGCGTTTTCGTTCTG**<br>**CCAATATGGATTAACATTCTCCCACCGTCAGTACGTGAGATATCTTTAACCCTGATCCTGGCAATTTCGGCTATACGTAACAGG**<br>**GTGTTATAAGCAATCCCCAGAAATGCCAGATTACGTATATCCTGGCAGCGATCGCTATTTTCCATGAGTGAACGAACCTGGTC**<br>**GAAATCAGTGCGTTCGAACGCTAGAGCCTGTTTTGCACGTTCACCGGCATCAACGTTTTCTTTTCGGATCCGCCGCATAACCAG**<br>**TGAAACAGCATTGCTGTCACTTGGTCGTGGCAGCCCGGACCGACGATGAAGCATGTTTAGCTGGCCCAAATGTTGCTGGATA**<br>**GTTTTTACTGCCAGACCGCGCGCCTGAAGATATAGAAGATAATCGCGAACATCTTCAGGTTCTGCGGGAAACCATTTCCGGTT**<br>**ATTCAACTTGCACCATGCCGCCCACGACCGGCAAACGGACAGAAGCATTTTCCAGGTATGCTCAGAAAACGCCTGGCGATCC**<br>**CTGAACATGTCCATCAGGTTCTTGCGAACCTCATCACTCGTTGCATCGACCGGTAATGCAGGCAAATTTTGGTGTACGGTCAG**<br>**TAAATTGGACATGGTTGTGGCAAGCTTATCATCGTGTTTTTCAAAGGAAAACCACGTCCCCGTGGTTCGGGGGGCCTAGACG**<br>**TTTTTTAACCTCGACTAAACACATGTAAAGCATGTGCACCGAGGCCCCAGATCAGATCCCATACAATGGGGTACCTTCTGGGC**<br>**ATCCTTCAGCCCCTTGTTGAATACGCTTGAGGAGAGCCATTTGACTCTTTCCACAACTATCCAACTCACAACGTGGCACTGGGG**<br>**TTGTGCCGCCTTTGCAGGTGTATCTTATACACGTGGCTTTTGGCCGCAGAGGCACCTGTCGCCAGGTGGGGGGTTCCGCTGCC**<br>**TGCAAAGGGTCGCTACAGACGTTGTTTGTCTTCAAGAAGCTTCCAGAGGAACTGCTTCCTTCACGACATTCAACAGACCTTGC**<br>**ATTCCTTTGGCGAGAGGGGAAAGACCCCTAGGAATGCTCGTCAAGAAGACAGGGCCAGGTTTCCGGGCCCTCACATTGCCAA**<br>**AAGACGGCAATATGGTGGAAAATAACATATAGACAAACGCACACCGGCCTTATTCCAAGCGGCTTCGGCCAGTAACGTTAG**<br>**GGGGGGGGGAGGGAGAGGGGCGGAATTCagg**TTAAGCTGGACTTGGATCCTCTTCTCCATTAAGGACTGTTGCATCTGTTGCTA<br>AGCTTCCAACCAAACTCTCCTGCTCCTCAATTTCCTGGTATTCCTTCTTCTTGTACTTCCGAGTACCATAGATGGCCAAGGTAATGA<br>CAACTCCTAG | *Mpeg1* Cre KI |
| *Mpeg1* _1 | gRNA | TCCAGCTTAATTGTCTCCAA (PAM:AGG) | *Mpeg1* Cre KI |
| *Mpeg1* _2 | gRNA | GGAGACAATTAAGCTGGACT (PAM:TGG) | *Mpeg1* Cre KI |
| Geno_*Mpeg1* _F1 | primer | GTGGAAGCTGGGAGAACCTC | *Mpeg1* Cre KI |
| Geno_*Mpeg1* _R1 | primer | GGGAGGGCACTGTCAATCAA | *Mpeg1* Cre KI |
| Geno_*Mpeg1* _F2 | primer | GGGAAGCTGCTGGAATCACT | *Mpeg1* Cre KI |
| Geno_*Mpeg1* _R2 | primer | CTCCCGAACCCCGGTTTTTA | *Mpeg1* Cre KI |
| *Mpeg1* _RNA_R | primer | GCCTAAGAAAATACTGCCAGGG | *Mpeg1* Cre KI |
| Nano_*Mpeg1* _F1 | Nanopore tailed primer | TTTCTGTTGGTGCTGATATTGCGTGGAAGCTGGGAGAACCTC | *Mpeg1* Cre KI |
| Nano_*Mpeg1* _R1 | Nanopore tailed primer | ACTTGCCTGTCGCTCTATCTTCGGGAGGGCACTGTCAATCAA | *Mpeg1* Cre KI |
| *Pam* _flox_lssDNA | lssDNA donor | TTCCTACTGTGGGATTACAGATGTGCACCACTGTGTCTCGCTTTTGTACACTAGTGATGGGGATCTGAGCCCAGGGCATCATGATT<br>TAGTGCCAAGCACT*ACTGATGGCGAGCTCAGACCCGCCGGCG* ATAACTTCGTATAATGTATGCTATACGAAGTTATTATGAAAGA<br>GAGGGAAGAAATATATGTGTGCATATGTGATTGGTTAAGGAAGCTAAAACATAATTGATTAATCATGTAGTTATGGGAGACACAA<br>AAAGGCAAATACAGAGCAGAAAACCATCTGGTACTCTGAGTTAAACATCCAACTCACCTTTGTGATGCCCATGGATCATAACCATG<br>TCGGATTTTACAGGAATTGGAATATTGGCCTCTTCTGGGATAGTTCTGAACATATCTGGAGCCACATTCTGTGTACAGGTCATGAA<br>GGAAACTGCATGCTTGGCTTCCATGTAATACATAATGTACAAGTTGCACATTTCATCACTAGATGTGCCGCTGTAGGGAGAGGAA<br>AGTAGACAGGACATCGAAAGTGCTCGTAGCAAACCCTTCCTTAATGCAAGAAATTGCACCCTGTAAGTCTGCCCATAGTGGACTC<br>AGTAGAGAAGAACTGCATCTAGTTTATATTTCTCATTAAAACCTATCACAGTCTCCAACATCAAAGATGTATTTCCATCCAACACTG<br>AAGTATTGGTGTCTGGTTATTCTGTGGACATCACCCAGGATCACAGATAAAAAAATGATACTTAAGTAGTTCAGAGATACAGGTTT<br>CCCCATTAATCCTTTTGTTCTTTATTTACCTACTGTGTTATAAAACCTACACATAAATAATTCCATTATAACTTCGTATAATGTATGCT<br>ATACGAAGTTAT*GCGATCGCCTCGACGCGGTACCCCCGGAT* AACAATTTAGAATCATCTGGTGTTCCAGTTTCATCTCTGTTGCTCT<br>CAAGAGAACTCCCTGACCAAAAGCTGAAAAGGGGAGGAGATGGTATATTTCAGC | *Pam* flox |
| *Pam* _5_1 | gRNA | TTTGCTTAGTGATGGCGTGA (PAM:TGG) | *Pam* flox |
| *Pam* _5_2 | gRNA | GTTTGTTCCAGTTACCAACT (PAM:TGG) | *Pam* flox |
| *Pam* _3_1 | gRNA | TGTTTTGATGGAAAAATGTC (PAM:AGG) | *Pam* flox |
| *Pam* _3_2 | gRNA | GTTTTGATGGAAAAATGTCA (PAM:GGG) | *Pam* flox |

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|---|---|---|---|
| *Pam* _RNA_R | primer | TTCCTACTGTGGGATTACAG | *Pam* flox |
| Geno_*Pam* _F1 | primer | GCCTACAGCTCTTAGTATCCCC | *Pam* flox |
| Geno_*Pam* _R1 | primer | AGGCAAGATGTCAATGCTGGAT | *Pam* flox |
| Nano_*Pam* _F1 | Nanopore tailed primer | TTTCTGTTGGTGCTGATATTGCGCCTACAGCTCTTAGTATCCCC | *Pam* flox |
| Nano_*Pam* _R1 | Nanopore tailed primer | ACTTGCCTGTCGCTCTATCTTCAGGCAAGATGTCAATGCTGGAT | *Pam* flox |
| *Prdm8* _flox_lssDNA | lssDNA donor | CCCAAAAAAATGAATACACTATCCTATTTGGTGCAACTTACTTTCTTGATTTGTGCATTTACTAAGTCAAACGCTCCCCAACTTTTCC<br>TTCCCCTTCTGT*ACTGATGGCGAGCTCAGACCCGCCGGCG* ATAACTTCGTATAATGTATGCTATACGAAGTTATCTCAGAAGCTTC<br>GTCCACCCTATGATGTGCAAGGTGAGCCCAGGCACCCGAGCCAACCTACCGTTCATTTTGTGAGCTCTAGACGGGCAGAGCAAGA<br>GCAATTCAGTCAGTTCTTTCCCGTACCAAACTAGTAACTCTTCATCTTTGGCAATCCTGCGGAGAGAGCGGTAGAACAGCTGTCCA<br>TTTTTTATATAAGCTTCGAGATTCTGTTCTTCCTTATCTCGGGCTGATTGGACCAGCCGCAGCCACATGAGACCTTCTGAGGAACCA<br>TTTGCCGCCGAAGTGTCTACCTACAGTATTTAAGAAAGACAAGAAGAGAGGGATCCACGTGAAAGACGGCAACCAGAGAAACCA<br>GAGATATTTCATCTGTCTGGCTTTTGTTCTTTCCAAACAATTATCTGAAACCAAGTTTGCAAAAGTTGACCAAAGTCGAACTGCATC<br>CCTGCATTTGTGGTCAATGGGCACAGTGGCCATCCTTTGCAATATTGGGTCAGTCTTACAGAGTAGCCTCTTTAGAATCTCCCTTTC<br>AGTTACCTCACATGACAAAAGGAGAGGAAATTTCCCGTGTTTCAGAAGTAAAAGGCAAGTTCGGGTCTTAGTAATTATTCTATGG<br>CACTCACGCCCATCTTCCTAACTGACATGAAGGACTAACAGCTTTACTTCATGATGAAAGACTAGGAACTCTGGGGTGGGGAAAC<br>TGGGAGTAACATTTAGCATGTAAATAAATAAAATAATTAATAAAAAAAGAACTACTAGGAAGAAAGAGGCCTGTTACAAACACAA<br>ACGTGGATTATAGATGCTTTGCTGCCAAAACAATTAACGTTTTAATTTAAATACAAACTCTGAACACTAGCTAATGTTAACTAAAGA<br>AAGCAATAATCAGGCGATGGGGAGACCTCCCAGGTTACAAAATAAATATACTCAATACTTGTAAAAGTTCTCTCAAGGACTACTTA<br>ATATGTAAATAGCCCCAGTACTAACAAGGTCTCCTTAGCAATTTATAACTTCGTATAATGTATGCTATACGAAGTTAT*GCGATCGC*<br>*CTCGACGCGGTACCCCCGGAT* AGTACCGATTCAGGCAACCTTGGCATTGTCTTTTTCTTTTTCTCAGTAAAATCACTTGATGATTTG<br>AATCTAGTTTTTCTTTTCTAATTTTTGTTGTGTTCGCTCTGCTCTGACTGCTCAGATG | *Prdm8* flox |
| *Prdm8* _5_1 | gRNA | CTGAATCGGTACTCTAGTTC (PAM:TGG) | *Prdm8* flox |
| *Prdm8* _5_2 | gRNA | GTTCTGGGTTCCCTAGATTA (PAM:GGG) | *Prdm8* flox |
| *Prdm8* _3_1 | gRNA | GTGTTGTCCCGAATGGAACT (PAM:AGG) | *Prdm8* flox |
| *Prdm8* _3_2 | gRNA | CGAATGGAACTAGGACAGAA (PAM:GGG) | *Prdm8* flox |
| Geno_*Prdm8* _F1 | primer | AACGCCATATTCGGTCCCTG | *Prdm8* flox |
| Geno_*Prdm8* _R1 | primer | CAGTTCCCGAGCCAAGTTGT | *Prdm8* flox |
| Geno_*Prdm8* _F2 | primer | GCAGGGATGCAGTTCGACTT | *Prdm8* flox |
| Geno_*Prdm8* _R2 | primer | GAGCCAACCTACCGTTCATTT | *Prdm8* flox |
| *Prdm8* _RNA_R | primer | CCCAAAAAAATGAATACACTATC | *Prdm8* flox |
| Nano_*Prdm8* _F1 | Nanopore tailed primer | TTTCTGTTGGTGCTGATATTGCAACGCCATATTCGGTCCCTG | *Prdm8* flox |
| Nano_*Prdm8* _R1 | Nanopore tailed primer | ACTTGCCTGTCGCTCTATCTTCCAGTTCCCGAGCCAAGTTGT | *Prdm8* flox |
| *Tgfbr3* _flox_lssDNA | lssDNA donor | CTGGCCTAAAACATTTGCAGGATCACAGGTAAGAAGCTGCCCCCACTGTCTAACCCATCCTGCCTCCTTCAGTGCATCCCTTGGCA<br>CTGCTGTTCCCTCTACTGATGGCGAGCTCAGACCCGCCGGCGATAACTTCGTATAATGTATGCTATACGAAGTTATCTTAGCCACTT<br>GCTTACTCTGAATTCTGTGGTTGACTGCGTTCTAAATCCTACACAACAACTCCTTTCCTCTCAGCTACACTGCTCCCTACCTCTCAGC<br>TGGTTATAACCAGCCCCACTCCTGCAGAAGGAAAAACAAGGAGGTGGTGTAGGAGAAGAGTTCTCATGCCATCTCCTAGGTCTCC<br>GCCAGTTCCAGGACTCTGGAATCCTACCATGCCTGGCTCTGAGCACCTGGACTCAGAAAGGTAAACAACCAACAGTTATAAACAT<br>TAACATCATTAACAGAAGCCATGCAACATTTACCTTCTCCCACTTTAATATAGATATTTCTTGCTATCTTAAGTTCGGTGAATGAAGT<br>CACTGCTCCATATTCCTTTTGGGCCCAGTGTAGCAGATGCTCATTTTCTTGAGGGAAACTCCTTTCCTCTGTTTCTGCTGTCAAGGA<br>GAAGTTTCCTGATGAAAACTGGACCACAGAACCCTCCGAAACCTGGAACAAATAGAACTTATAGTTAATATGACACAGTTACCCA<br>GAGTCAAACCAGACTTAGAGGGAGCCCTAGCTAGACTTCACCATCATACCTAATTTGTTTCTTCTCTCTGACATGCAGGCAGATGT<br>GGCAGAGGCAAGCTCCCTAAGAGCTGAATCAAGCAATCCCAAGCCCACTTCTTCCAGGTAACCCCAAGAAGACTTCCATTAAAGA<br>TCAAACTTCTGAGTACTGGATAGTCTCTGTTTATATGTTGCCATGTCTGTGGACTGACCAGGAACACAGTACCTCTCTTCAACACAT<br>ATGGATACCAGAGATAACTTCGTATAATGTATGCTATACGAAGTTATGCGATCGCCTCGACGCGGTACCCCCGGATGACATTTAA<br>GGGAAACACAGCACCTCTCTTGACAAACATGGACTTTAAAAGTTTTTAGCTATGTCATTTCCTAATCAGTAAGTACTCTTTGCACAG<br>TATG | *Tgfbr3* flox |
| *Tgfbr3_5_1* | gRNA | TCCAGTTCTAGACACGGCTC (PAM:TGG) | *Tgfbr3 flox* |
| *Tgfbr3_5_2* | gRNA | ACCAGAGCCGTGTCTAGAAC PAM:TGG) | *Tgfbr3 flox* |
| *Tgfbr3_3_1* | gRNA | AAGTGGCTAAGTGTCGGAGA (PAM:GGG) | *Tgfbr3* flox |
| *Tgfbr3_3_2* | gRNA | CAAGTGGCTAAGTGTCGGAG (PAM:AGG) | *Tgfbr3* flox |
| *Guide I* | gRNA Cas9 capture | GCGACACAAGCCTCGTGCAT (PAM:AGG) | *Tgfbr3* flox |
| *Guide M* | gRNA Cas9 capture | ATTTCCATTGACCTGTAGTC (PAM:AGG) | *Tgfbr3* flox |
| *Guide N* | gRNA Cas9 capture | TGGGTTGAAGGTACTCCGCA (PAM:AGG) | *Tgfbr3* flox |

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| *Guide O* | gRNA Cas9 capture | CACGGTGCATACGTACTCTG (PAM:AGG) | *Tgfbr3* flox |
| *Geno_Tgfbr3_F1* | primer | CAGGGATGGCCTGAATATACCA | *Tgfbr3* flox |
| *Geno_Tgfbr3_R1* | primer | ATCAGGTCACAGCGTTAGACAC | *Tgfbr3* flox |
| *Geno_Tgfbr3_F2* | primer | TCCTCCTGCTGAGAAACCTGAA | *Tgfbr3* flox |
| *Geno_Tgfbr3_R2* | primer | GTGGATCAGAGTACACCCACTT | *Tgfbr3* flox |
| *Tgfbr3_RNA_R* | primer | CTGGCCTAAAACATTTGCAG | *Tgfbr3* flox |
| *Tgfbr3* _UNIV_copy_counting_forward | ddPCR primer | ACAGCAGAAACAGAGGAAAGG | *Tgfbr3* flox |
| *Tgfbr3* _UNIV_copy_counting_reverse | ddPCR primer | CGGTGAATGAAGTCACTGCT | *Tgfbr3* flox |
| *Tgfbr3* _UNIV_copy_counting_probe | ddPCR probe | AATGAGCATCTGCTACACTGGGCC | *Tgfbr3* flox |
| *Nano_Tgfbr3_F2* | Nanopore tailed primer | ACTTAACAAAGTCCCAGCCCT | *Tgfbr3* flox |
| *Nano_Tgfbr3_R2* | Nanopore tailed primer | AGCAGCAATGAGCCTTGGAA | *Tgfbr3* flox |