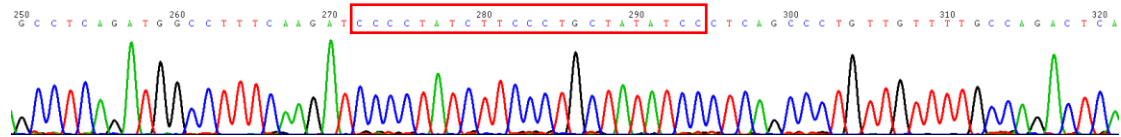


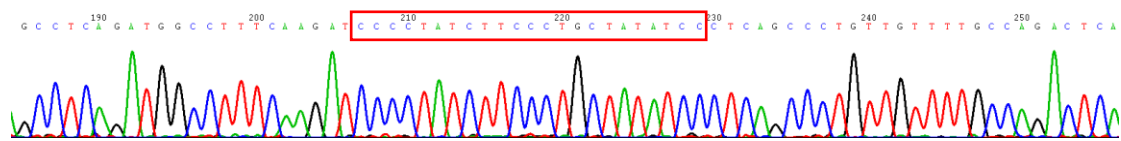
**Supplementary Figure S1.** Sanger sequencing revealed null off-target effects in each edited cell line. The Red rectangle indicates the off-target sequence.

chr1:151261259 (*ZNF687*\_intron 3)

*GRIKI*<sup>p.L25Pfs\*/WT</sup>

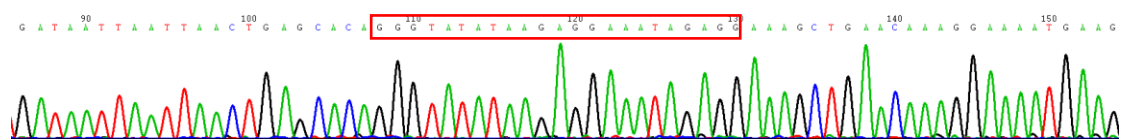


*GRIKI*<sup>p.L25Pfs\*/p.L25Pfs\*</sup>

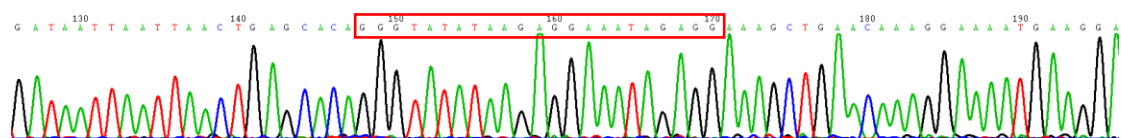


chr11:24740548 (*LUZP2*\_intron 1)

*GRIKI*<sup>p.L25Pfs\*/WT</sup>

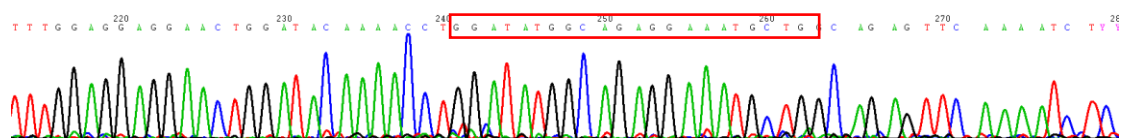


*GRIKI*<sup>p.L25Pfs\*/p.L25Pfs\*</sup>

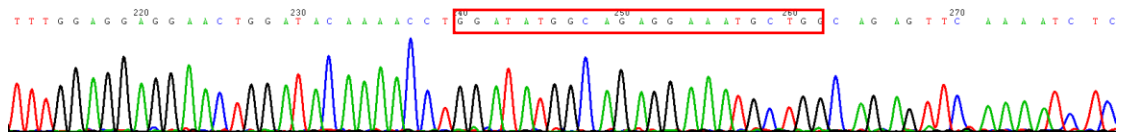


chr12:14769329 (*GUCY2C*\_intron 25)

*GRIKI*<sup>p.L25Pfs\*/WT</sup>

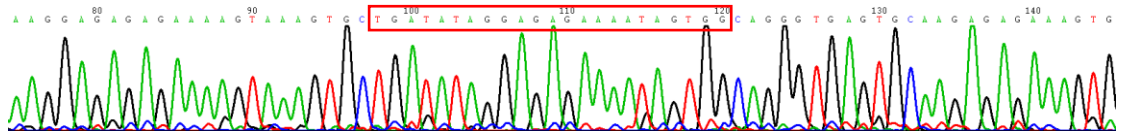


*GRIKI*<sup>p.L25Pfs\*/p.L25Pfs\*</sup>

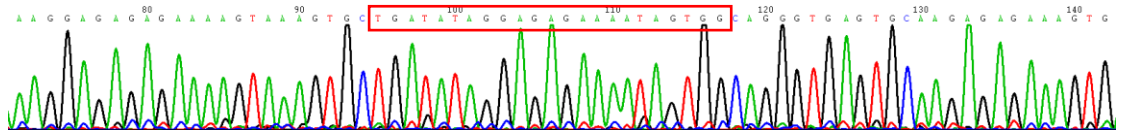


chr13:48811058 (*ITM2B*\_intron 1)

*GRIKI*p.L25Pfs\*?/WT

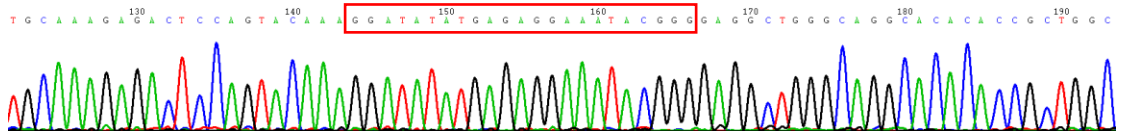


*GRIKI*p.L25Pfs\*?/p.L25Pfs\*?

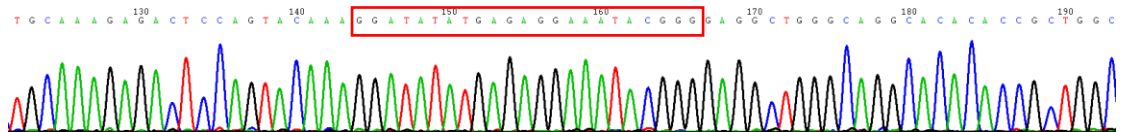


chr14:89886352 (*FOXP3*\_intron 1)

*GRIKI*p.L25Pfs\*?/WT

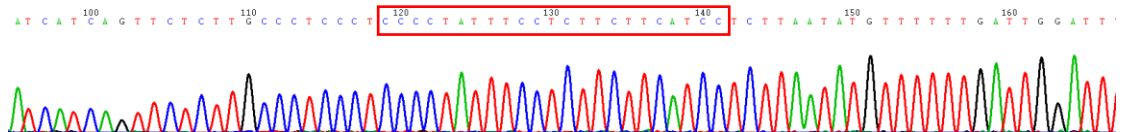



*GRIKI*p.L25Pfs\*?/p.L25Pfs\*?



chr16:57583416 (*ADGRG5*\_intron 1)

*GRIKI*p.L25Pfs\*?/WT





*GRIK1*<sup>p.L25Pfs\*/WT</sup>

100 T G G G C C C A T C C C C T T T T T T G C A G C C C C T A T C T C C C C T G C T A T A G C C C C A C A C A T C C C T G T G G T C C C C G A T C T 270

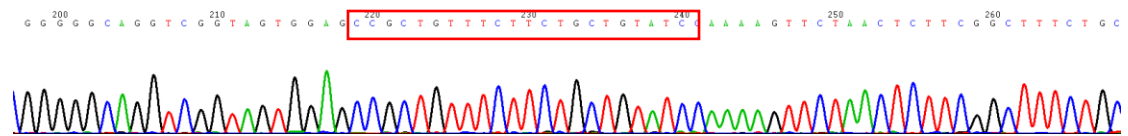
230 240

230 240

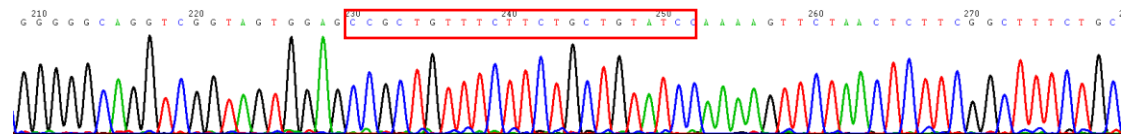
*GRIK1*<sup>p.L25Pfs\*/WT</sup>

T T A C C C A T T G T T A C A G C T T G G T T G G G G A T A T A G C A G T G G A A A A A A T T G G A C C A A A A G T T C T T G G C C A C A T G A A G T T

*GRIK1*<sup>p.L25Pfs\*?/WT</sup>

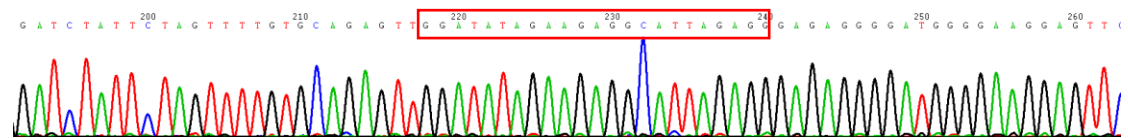


*GRIKI*p.L25Pfs\*?/p.L25Pfs\*?

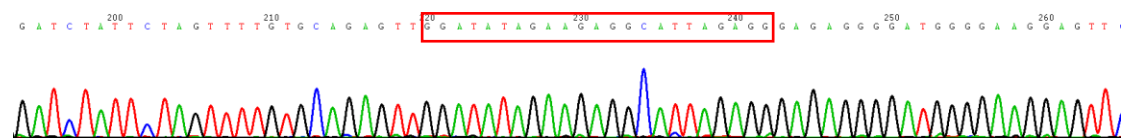


chr3:58054571 (*FLNB*\_intron 1)

*GRIKI*p.L25Pfs\*?/WT

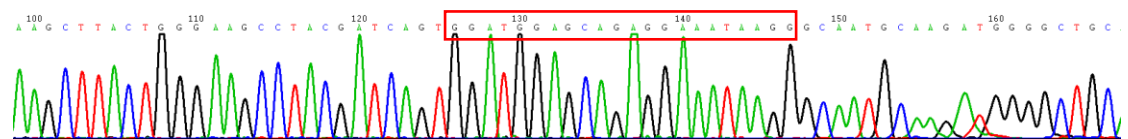


*GRIKI*p.L25Pfs\*?/p.L25Pfs\*?

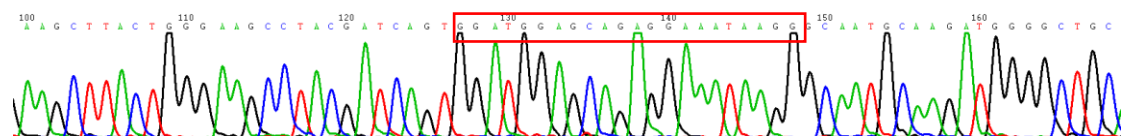


chr4:71771379 (*MOB1B*\_intron 1)

*GRIKI*p.L25Pfs\*?/WT

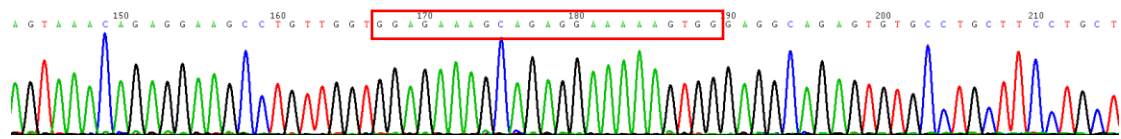


*GRIKI*p.L25Pfs\*?/p.L25Pfs\*?

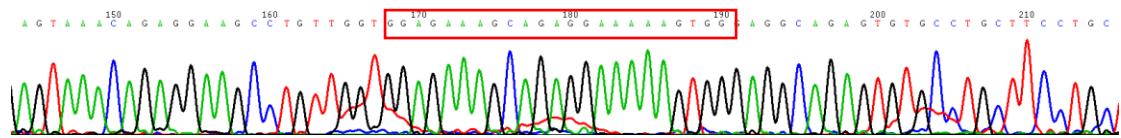


chr4:77129747 (*SCARB2*\_intron 1)

*GRIKI*p.L25Pfs\*?/WT

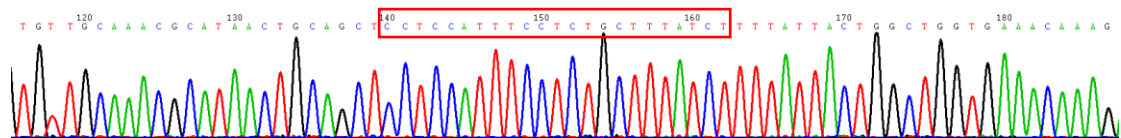


*GRIKI*p.L25Pfs\*?/p.L25Pfs\*?

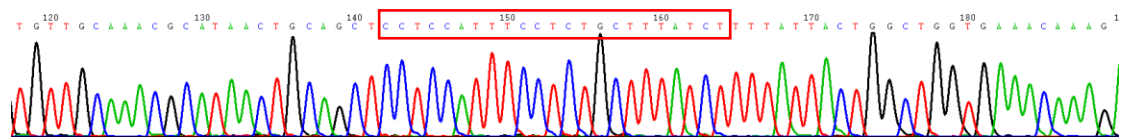


chr6:136174586 (*PDE7B*\_intron 1)

*GRIKI*p.L25Pfs\*?/WT

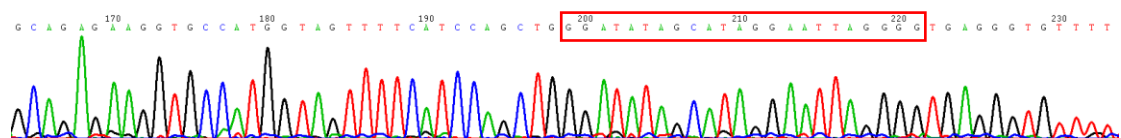


*GRIKI*p.L25Pfs\*?/p.L25Pfs\*?

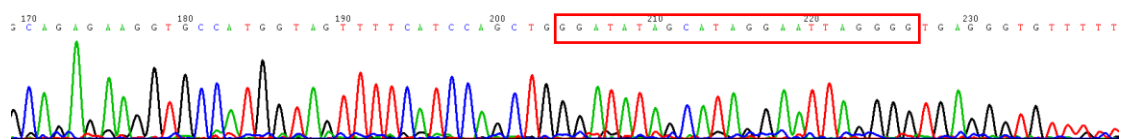


chr9:6820589 (*KDM4C*\_intron 4)

*GRIKI*p.L25Pfs\*?/WT

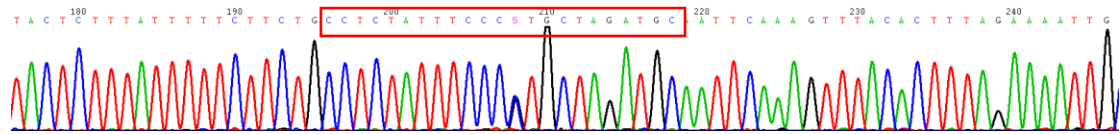


*GRIKI*p.L25Pfs\*?/p.L25Pfs\*?

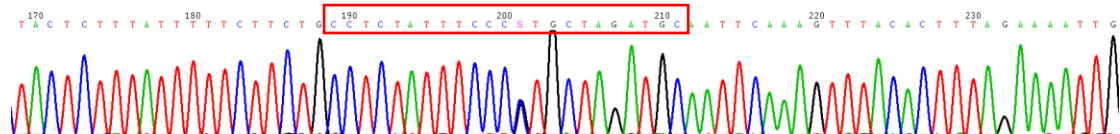


chr9:18501127 (*ADAMTSL1*\_intron 1)

*GRIK1*<sup>p.L25Pfs\*?/WT</sup>

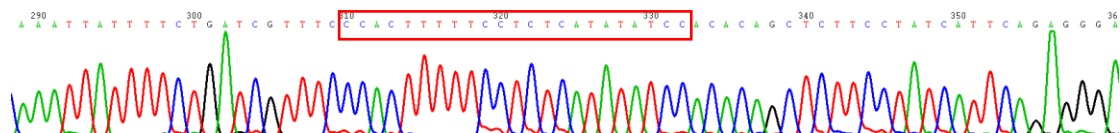


*GRIK1*<sup>p.L25Pfs\*?/p.L25Pfs\*?</sup>

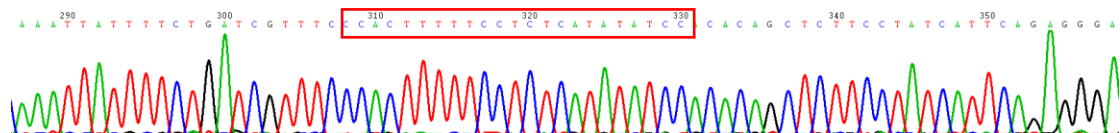


chr9:104416811 (*GRIN3A*\_intron 3)

*GRIK1*<sup>p.L25Pfs\*?/WT</sup>

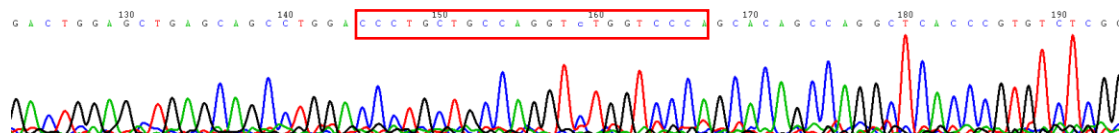


*GRIK1*<sup>p.L25Pfs\*?/p.L25Pfs\*?</sup>

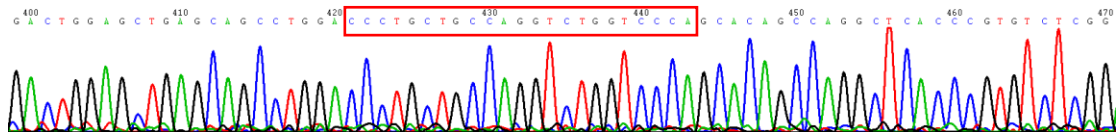


chr15:31779358 (*OTUD7A*\_intron 13)

*GRIK4*<sup>WT/WT</sup>

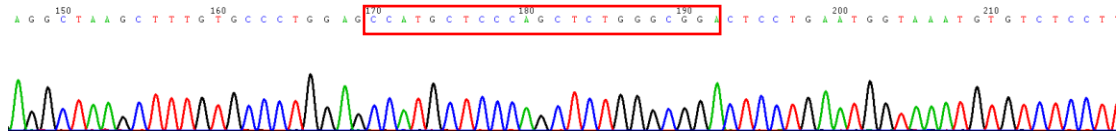


*GRIK4*<sup>p.H343Afs\*?/p.H343Afs\*?</sup>

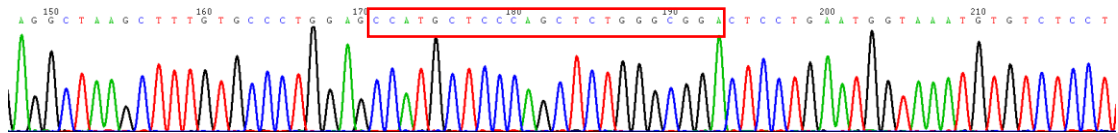


chr17:43324175 (*FMNL1*\_intron 26)

*GRIK4*<sup>WT/WT</sup>

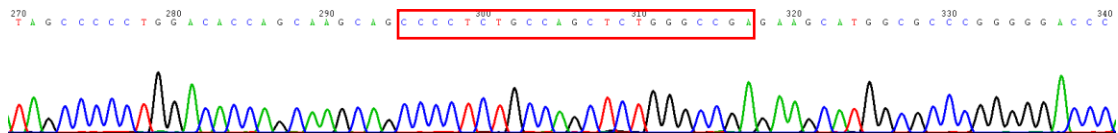


*GRIK4*<sup>p.H343Afs\*?/p.H343Afs\*?</sup>

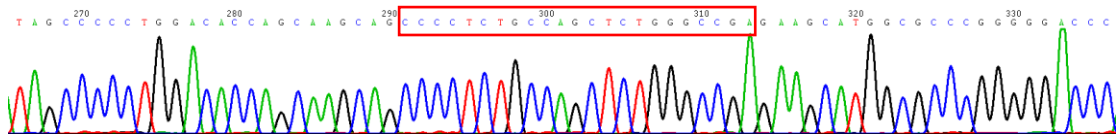


chr20:61287978 (*SLCO4A1*\_exon 2)

*GRIK4*<sup>WT/WT</sup>

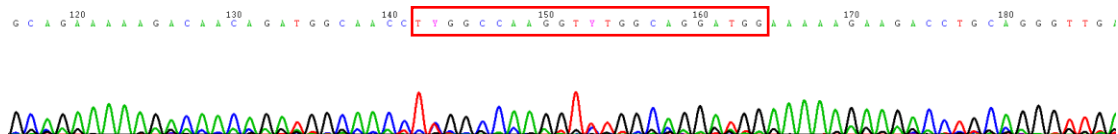


*GRIK4*<sup>p.H343Afs\*?/p.H343Afs\*?</sup>

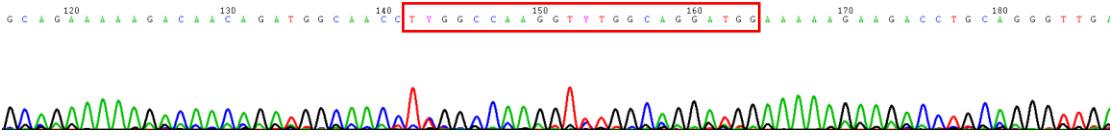


chr4:7817520 (*AFAP1*\_intron 7)

*GRIK4*<sup>WT/WT</sup>

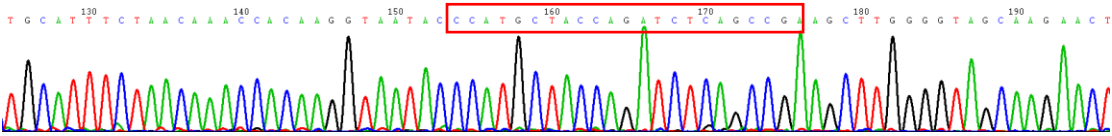


*GRIK4*<sup>p.H343Afs\*?/p.H343Afs\*?</sup>



chrX:12514161 (*FRMPD4*\_intron 4)

*GRIK4*<sup>WT/W</sup>



*GRIK4*<sup>p.H343Afs\*?/p.H343Afs\*?</sup>

