



INK2S00025.2_APOE_R136S_A01_AB
3803 bp

ATGTTTCAAGCCCGCTGCACCTCCAAGCCTGGGGTGACAGAGCAAGACCCTGTTTATAAATACATAATGCTTTTCCAAGTGATTAACCCGACTCCCCCTCACCTTGCACCCATGGCTCCAAAGAAGCATTTGTGGAGAC
TACAAGTCCGGCGACGTGAGGTCGGACCCACTGTCTCGTTCTGGGACAAATATTTATGTATTACGAAAGGTTCACTAATTTGGCTGAGGGGGGAGTGGGACGGGTGGTACCGAGGTTTCTTCGTAACACCTCGT

1890

APOE

APOE-201

APOE-201

CCTTCTGTGTGCCCTAGGTAAGTACTAGATGCCTGGACGGGGTCAGAAGGACCCTGACCCACCTTGAACCTTGTTCACACAGGATGCCAGGCCAAGGTGGAGCAAGCGGTGGAGACAGAGCCGGAGCCCGAGCTGCGC
GGAAGACACACGGGGATCCATGATCTACGGACCTGCCCAAGTCTTCTGGGACTGGGTGGAACCTTGAACAAGGTGTCTTACGGTCCGGTTCACCTCGTTTCGCCACCTCTGTCTCGGCCCTCGGGCTCGACGCG

2025

APOE

APOE-201

APOE-201

15 20 25 30
G C Q A K V E Q A V E T E P E P E L R
ENSE00000893952

CAGCAGACCAGGTGGCAGAGCGGCCAGCGCTGGGAACCTGGGACTGGGTGCTTTTGGGATTACCTGCGCTGGGTGCGACACTGTCTGAGCAGGTGCAGGAGGAGCTGCTCAGCTCCAGGTCACCCAGGAACTG
GTCGTCTGGCTACCCTCGCCGGTCCGACCCCTTGACCGTGACCCAGCGAAAACCTAATGGACGGCACCACGCTGTGACAGACTGTCACGCTCCTCCTCGACGAGTCGAGGGTCCAGTGGGTCTTGTGAC

2160

APOE

APOE-201

35 40 45 50 55 60 65 70 75
Q Q T E W Q S G Q R W E L A L G R F W D Y L R W V Q T L S E Q V Q E E L L S S Q V T Q E L
ENSE00000893952
APOE-201

AGGTGAGTGTCCCATCTG6CCCTGACCCTCTGGTGGGCGGCTATACCTCCCCAGGTCAGGTTTCTATTCTGCCCTGTGCTAAAGTCTTGGGGGGCTGGGTCTCTGCTGGTTCTAGCTTCTCTTCCCAT
TCCACTCACAGGGGTAGGACCGGGAACCTGGGAGGACCACCCGCGGATATGGAGGGGTCCAGGTCCTAAAGTAAAGACGGGACAGCGATTCAGAAACCCCGGACCCAGAGACGACCAAGATCGAAGGAGAAGGGTA

2295

APOE

APOE-201

TTCTGACTCCTGGCTTTAGCTCTCTG6AATTTCTCTCTCTCAGCTTGTCTCTCTCTTCCCTTCTGACTCAGTCTCTCACACTCGTCTG6CTCTGTCTCTGTCTCTTCCCTAGCTCTTTATATAGAGACAGAG
AAGACTGAGGACCGAAATCGAGAGACCTTAAGAGAGAGAGTGAACACAGAGAGAGAGAAGGGAAGACTGAGTCAAGAGAGTGTGAGCAGGACCGAGACAGAGACAGGAAAGGATCGAGAAAATATATCTGTCTC

2430

APOE

APOE-201

APOE-201

AGATGGGGTCTCACTGTGTTGCCAGGCTGGTCTTGAACCTCTGGGCTCAAGCGATCCTCCGCTCGGCTCCCAAAGTCTGGGATTAGAGGCATGAGCCACCTTGCAGGGCTCCTAGCTCCTTCTCGTCT
TCTACCAGAGTGCACACACGGGTCGACAGAACTTGAAGACCGAGTTCGCTAGGAGGGCGGAGCCGGAGGGTTTACGACCCCTAATCTCCGTAAGTGGTGAACGGGCGGAGGATCGAGGAAGAAGCAGA

2565

APOE

APOE-201

APOE-201

CTGCTCTGCCCTCTGCATCTGCTCTCTG6ATCTGTCTCTGCTCTCTTCTCTG6GCTCTGCCCGTTCCTTCTCTCCCTTGGGTTCTCTG6CTCATCCCATCTCGCCCGCCCATCCAGCCCTTCTCCC
GACGGAGACGGGAGACGTAGACGAGAGACGTAGACAGAGACAGAGGAAGAGAGCCGAGAGCGGGCAAGGAAGAGAGGGAGAACCCAGAGAGACCAGTGGGGTAGAGCGGGCGGGTAGGGTCTGGGAAGAGGG

2700

APOE

APOE-201

APOE-201

Sanger Sequencing Primer
CGGAAGTGGAGGAACTGA
PCR Forward
CGGAAGTGGAGGAACTGA

CGCCTCCCCTGTGCGACACCCTCCGCGCTCTCGGCGCAGGGCGCTGATGGACGAGACCATGAAGGAGTTGAAGGCTACAAATCGGAAGTGGAGGAACTGACCCCGGTGGCGGAGGAGACGGGGCAGC
GCGGAGGGTGAACGCTGTGGGAGGGCGGGAAGCCGGCTCCGCGACTACCTGCTCTGGTACTTCTCAACTTCCGGATGTTAGCCTTACCTCTTGTGACTGGGGCCACCGCTCCTGCGCCCGTGC

2835

APOE

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APOE-201

80 85 90 95 100 105 110
A L M D E T M K E L K A Y K S E L E E Q L T P V A E E T R A R
ENSE00000893954

GCTGTCCAAGGAGCTGCAGGCGGGCGAGGCCGGCTGGGCGGGACATGGAAGACGTGTGCGCCGCTGGTGCAGTACCGCGGAGGGTGCAGGCCATGCTCGGCCAGAGCACCGAGGAGCTGGGGTGCCT
CGACAGGTTCTCTGACGCTCCGCGCTCCGGCCGACCCGCGCTGTACCTCTGACACGCGGGCGGACCCAGCTCATGGCGCGCTCCAGCTCGGACGAGCGGCTCTGCTGGCTCCTGACGCCACCGGGA

2970

APOE

APOE-201

115 120 125 130 135 140 145 150 155
L S K E L Q A A Q A R L G A D M E D V C G R L V Q Y R G E V Q A M L G Q S T E E L R V R L
ENSE00000893954
APOE-201

Donor Template WT -> SNV

SNV PAM

Donor Template WT -> SNV

CGCCTCCCACCTGCGCAAGCTGCGTAAGCGGCTCC

CGCCTCCCACCTGCGCAAGCTGCGTAAGCGGCTCCCTCCGCGATGCCGATGACCTGCAGAAAGCGCCTGGCAGTGTACCAAGCCGGGGCCCGCGAGGGCGCCGAGCGCGGCTCAGCGCCATCCGCGAGCGCCTGGG
GCGGAGGGTGGACGCGTTCCAGCATTCCGCCGAGGAGCGCTACGGCTACTGGACGCTTCCGCGACCGTCCACATGGTCCGGCCCGGGCGCTCCCGGGCTCGCGCCGAGTCCGGTAGCGCTCGCGACCC

3105

APOE

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A S H L R K L R K R L L R D A D D L Q K R L A V Y Q A G A R E G A E R G L S A I R E R L G

ENSE00000893954

APOE-201

Donor Template WT -> SNV

Protospacer Sequence

GCGGAGGGTGGACGCGTTCCG

gRNA Protospacer

GCCCTGGTGAACAGGGCCGCGTGGGGCCGCGCACTGTGGGCTCCCTGGCGGCCAGCCGCTACAGGAGCGGGCCAGGCTGGGGCGAGCGGCTCGCGCGCGGATGGAGGAGATGGCGAGCCGCGGACCCGCGA
CGGGACACCTTGTCCCGGCGACGCCCGGGTACACCCGAGGGACCGCGGCTCGCGATGTCTCCGCGGGTCCGGACCCGCTCGCGACGCGCGCGCTACCTCCTACCCGTCGGCTGGCGGCT

3240

APOE

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P L V E Q G R V R A A T V G S L A G Q P L Q E R A Q A W G E R L R A R M E E M G S R T R D

ENSE00000893954

APOE-201

CTACCTCCTACCCGTCG

PCR Reverse

CCGCCTGGACGAGGTGAAGGAGCAGGTGGCGGAGGTGGCGCCAAGCTGGAGGAGCAGGCCAGCAGATACGCCCTGCAGGCGGAGCCCTTCCAGGGCCGCGCTCAAGAGCTGGTTCGAGCCCTGGTGAAGACAT
GGCGGACCTGCTCCACTTCTCCTGCTCCACCGCCTCCACGCGGGTTCGACCTCCTGCTCGGGTCTGCTATGCGGACGCTCGGCTCCGGAAGGTCGGGGCGGAGTTCGACCAAGCTCGGGACACCTTCTGTA

3375

APOE

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R L D E V K E Q V A E V R A K L E E Q A Q Q I R L Q A E A F Q A R L K S W F E P L V E D M

ENSE00000893954

APOE-201

GCAGCGCAGTGGGCCGGGCTGGTGGAGAGGTGCAAGGCTGCCGTTGGGCACCAAGCGCCGCGCCCTGTGCCAGCGACAATCACTGAACGCCGAAAGCCTGCAGCCATGCGACCCACGCCACCCCGTGCCTCCTGCC
CGTCGCGGTCACCCGGCCGACCACTCTCCACGTCGACGGCACCCGTTGGTCGGCGGGGACACGGGTCGCTGTTAGTGACTTGCGGCTTCGGACGTCGGTACGCTGGGTGGGGTGGGGCACGGAGGACGG

3510

APOE

APOE-201

Q R Q W A G L V E K V Q A A V G T S A A P V P S D N H

ENSE00000893954

APOE-201

TCCGCGCAGCCTGCAGCGGGAGACCTGTCCCGGCCAGCCGTCCTCCTGGGGTGGACCTAGTTTAATAAAGATTACCAAGTTTCACGCATCTGCTGGCCTCCCTGTGATTTCTCTAAGCCCCAGCCTC
AGGCGCGTCGGACGTCGCCCTCTGGGACAGGGCGGGTCCGGCAGGAGGACCCACCTGGGATCAAATATTTCTAAGTGGTCAAAGTGCCTAGACGACCGGAGGGGGACACTAAAGGAGATTGGGGTCCGGAG

3645

APOE

APOE-201

AGTTTCTCTTTCTGCCACATACTGGCCACACAATTTCTCAGCCCTCCTCTCCTATCTGTGTCTGTGTATCTTTCTCTCTGCCCTTTTTTTTTTTTTTATAGCGGAGTCTGGCTCTGTACCCAGGCTAGAGTG
TCAAAGAGAAAGACGGGTGTATGACCGGTGTGTTAAGAGTCCGGGGAGGAGGTAGACACAGACACATAGAAAGAGAGACGGGAAAAAAAAAAAAAAAAATCTGCCTCAGACCGAGACAGTGGGTCCGATCTCAC

3780

CAGTGGCAGGATCTTGGCTCACT 3'
GTCACCGTGTAGAACCGAGTGA 5'

Primer		Length		Binding Sites		Tm	Date Added
✓ PCR Forward		21-mer		2787 .. 2807	→	57°C	Oct 13, 2022
/sequence	=	CGGAACTGGAGGAACAACCTGA 52% GC / 6513.3 Da					
✓ Sanger Sequencing Primer		21-mer		2787 .. 2807	→	57°C	Oct 13, 2022
/sequence	=	CGGAACTGGAGGAACAACCTGA 52% GC / 6513.3 Da					
✓ Donor Template WT -> SNV		79-mer		2927 .. 3005	→	85°C	Oct 13, 2022
/sequence	=	CAGGCCATGCTCGGCCAGAGCACCGAGGAGCTGCGGGTGAGCCTCGCCTCCCACCTGCGCAAGCTGCGTAAGCGGCTCC 71% GC / 24,286.6 Da					
✓ gRNA Protospacer		20-mer		2971 .. 2990	←	67°C	Oct 13, 2022
/sequence	=	GCTTGCGCAGGTGGGAGGCG 75% GC / 6255.1 Da					
✓ PCR Reverse		19-mer		3211 .. 3229	←	59°C	Oct 13, 2022
/sequence	=	GCTGCCCATCTCCTCCATC 63% GC / 5635.7 Da					