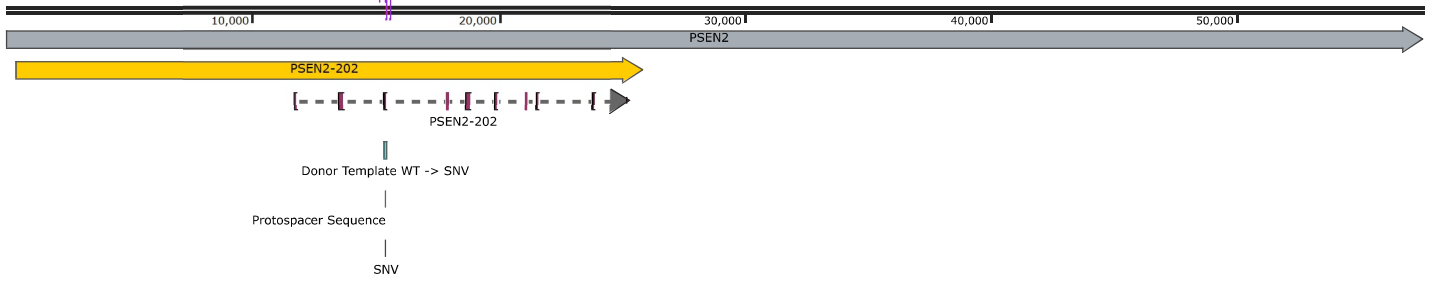
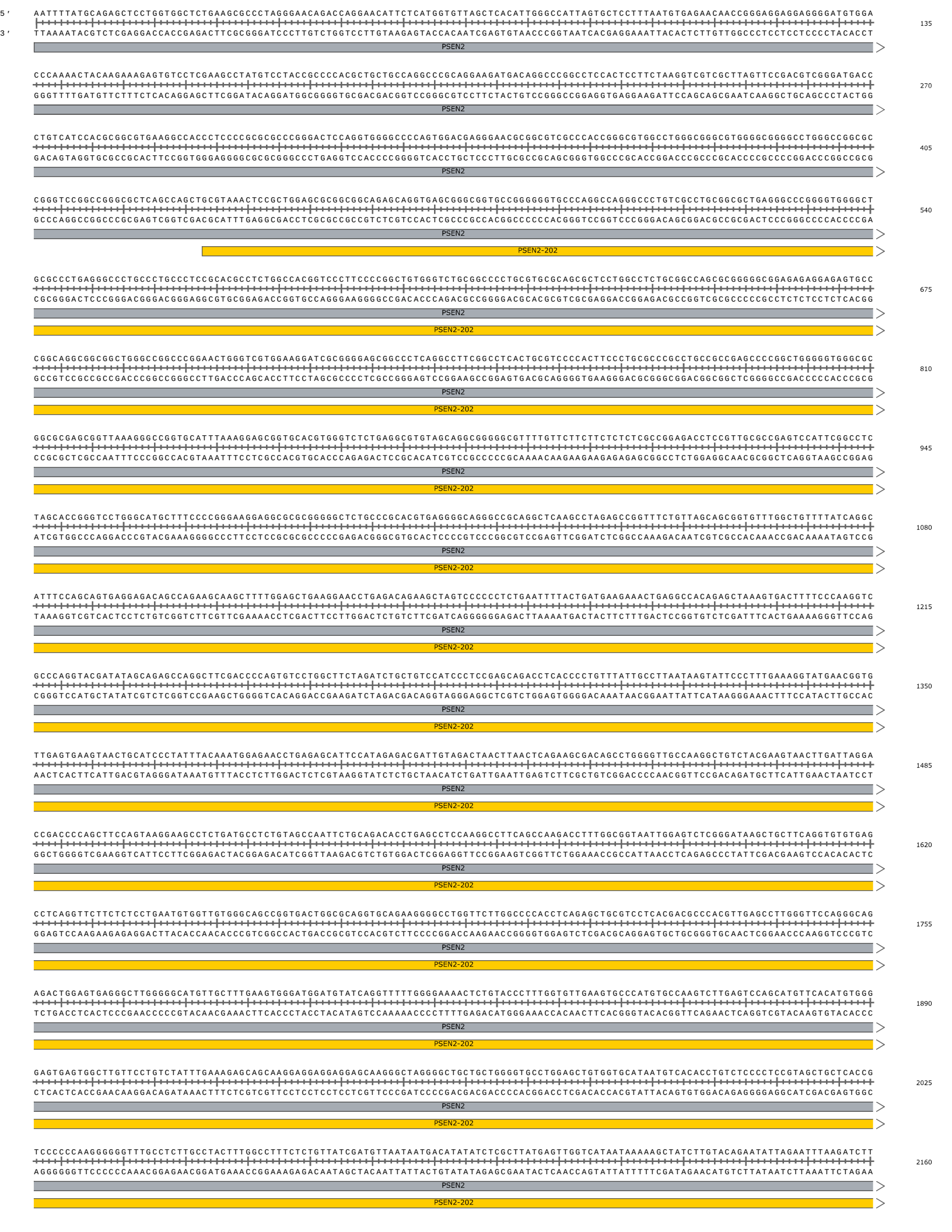


● (15,380 .. 15,460) Donor Template WT -> SNV
(15,171 .. 15,190) PCR Forward
(15,171 .. 15,190) Sanger Sequencing Primer
gRNA Protospacer (15,414 .. 15,433)
PCR Reverse (15,564 .. 15,583)



JIPSC1050_SnappeneDNA_INK2500029.2_PSEN2_N141I_SNVSNV
57,543 bp



AAGAAATTTCAATGACACTGAAATAGTTTATTATTACCTTTTACAGAAAGAGGAAACAAGTTTCAAGCAGCTAGTCCAGTTATGTGGCTTCAGTGCTTTAAGCACCAGGATTTGAACATAGCTGGCTAC
TTCTTAAAGTTACTGTGACTTTATCAAATAATAATGGAAAAATGCTTCTCCTTTGTTCAAGTCCCTCAATTCGTGATCAGGTCAATACACCGAAGTACAGAAATTCGTGGTCTAAACTTGTATCGACCGATG

2295

PSEN2

PSEN2-202

ACTGTCTTTATCTCTTGTAGTTTTTGGCGCAGGAGGTTCCCTGATTCAACTCCTACCCTGTCTCTCACTACTGCTGGGAAAGTTTTGTGGAGTCCCATGAGCAACTTCTGACAAAACAAAATTTTTTTAA
TGACAGAAATAGAGAACTCAAAAACGCGTCTCCAAGGACATAAGTTGAGGATGGGCACAGAGAGGTGATGACGACCTTTCAAAACACCTCAGGGGACTCGTTGAAGGACTGTTGTTGTTTTAAAAAATT

2430

PSEN2

PSEN2-202

AGAAACCAAGCAGTGTGTAGGTCACATGCAGTGTCTAATGAAAACATCTCTGGCGGGTTTTACAGCTGTTGCTTTGACTTTTCGGACACTGTTTGTGGGACTGATAAGACAGCAAATATTTCTGCAAGT
TCTTTGGTTTTCGTCACACACATCCAGTGTACGTCACACAGATTACTTTTGTAGAGACCGCCAAAAGTCGACAACGAAACTGAAAGCCTGTGACAAATCAACCCCTGACTATTCTGTGCTTTATAAAGACGTTCA

2565

PSEN2

PSEN2-202

ATTCCACCTGTTCTATTCCAGCTGCCACAGCTGCGGAAAGGCGGGGGTGAAGGCTGAGAGGCCCGGAGAGGAACATTTCCACTGGGCTCCAATCCTGGAGATGGGATGACCATCATGTTAATGCTGGAGAAA
TAAGGGTGGACAAGATAAAGGGTGCAGGTTGCAGCCTTTCCGCCCCACTCCGACTCTCCGGGCTCTCCTTGTAAAAGGTGACCCGAGGTTAGGACCTCTACCTACTGGTAGTACAATTACAGACCTCTTT

2700

PSEN2

PSEN2-202

AGAATGATTTTCAGGCTGGGTCGTGGCTCATGTCTGTAATCCAGCAGCTTTGGGAGGCCGAGGTGGGTGGATCACCTGAGGTCGGAAGTTTGAAGCAGCCCTGACCAACATGGAGAAACCCCTCTTTACTAAA
TCTTACTAAAGTCCGACCCACGACACCGAGTACAGACATTAGGGTCTGAAACCTCCGGCTCCACCACCTAGTGGACTCCAGCCTTCAAACCTGCTGGTGGACTGGTTGTACCTCTTTGGGGTAGAAATGATTT

2835

PSEN2

PSEN2-202

AATACAAAATTAGCCGGGCGTGGTGGCACATGCCTGTAATCCAGCTACTCAGGAGGCTGAGGCAGGAGAAATCGCTTGAACCCAGGAGGCGGAGGTTGCAAGTGAAGCCAGATCGGGCCATGGCACTCCAGCCTGG
TTATGTTTTAATCGGCCCGCACCCGTTGTACGGACATTAGGGTCTGATGAGTCTCCGACTCCGCTCTTAGCGAAGTTGGGTCCTCCGCCCTCAAAGTCACTCGGCTTAGCCGGTACCCTGAGGTCGGACC

2970

PSEN2

PSEN2-202

GCAACAAGAGCAAACTCCATCTCAAAAAAAAAAAAAATGGTTTTACATCAGTCTCAGGAAAGATCAGATGTCAGTGAAGGAGATCATTCTTGAGAGCCTCTTCACTGAGTGGGAGAATGGGCTGCTTGTTCAT
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3105

PSEN2

PSEN2-202

CTTTGTGAAAATTTAGAACGGGAAGAACAATTCAAAGGGTGTCCACCATTCTGCTGTACCTTAACCAGAACTTACTGGACTCTTTTTAAAAATAAAGTAATTCATGTTTATTCTAGAAAATTAGGGAAAAAAA
GAAACACTTTTAAAGTCTTGCCCTTCTGTTAAGTTTCCACAGGTTGTAAGAGCAGACATGGAATTTGGTCTTGAATGACCTGAGAAAAATTTATTTTCAATTAAGTACAATAAGATCTTTTAAATCCCTTTTTTT

3240

PSEN2

PSEN2-202

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3375

PSEN2

PSEN2-202

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CACGGACGGTGGTGAAGGTCGATTAAAAACATAAAAAATAATCTCGCCCCAAAGTGGTACAACCGGTCGACCCAGAGTTGAGGACTGGAGTCCACTAGCGGTTGGAACCGGAGGTTTTACGACCATAATGTT

3510

PSEN2

PSEN2-202

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CGTATTCGGTAAACGCGACCCGACTCTATTGGTGAGAATTGTACGTAAGGAAGGTTGACAAGTGTATACGTAATAATAGATAATTTGTTATCTCCCTCCCTTGGCATCCACTTCAAACACATAGGACAAAAAA

3645

PSEN2

PSEN2-202

CTGTTATGCCTTCAGAAATTTCCCTTTATTGAGTACTCATGGAAAAGCAGATTTGATGGCTGTGTAGAGCATTGAAATTTTATCCTACCAGTCCACAGCAGGACACTTTCCACCCTCCCTTTTGGCCCAGA
GACAATACGGAAGTCTTAAAGGAAAAATAACTCATGAGTACCTTTTCTGCTAAACTACCACACATCTCGTAAACTTAAATAAATAGGATGGTCAGGGTGTCTCTGTGAAAGGGTGGGAGGAAAAACGGGGTCT

3780

PSEN2

PSEN2-202

GAAGCAGTGCCTCTGTCTCCCATGCCATATGTTGGGCACTCCCAACCATGAGGCCAAACCTACCTGGGCAAGTAGCAGAGGGAGAGCAGAGTGAAGCCTGGGGGACGAGAGAGACTTGAAGTTTTGAGGT
CTTCGTACGGGAGACAGGAGGGGTACGGGTATACACCCGTGAGGGGTGGTACCTCGGTTTGGATGGACCCGTTTCATGCTCCTCTCGTCTCACTCGGGACCCCGTCTCTCTGAACTCTCAAACCTCA

3915

PSEN2

PSEN2-202

GACAGATGAGCTGGTGAAGTGAATAGGGAGCATTCTTGACACATACCTGCCCGTGGTGAAGGCATGTGCTTGTGAGTGTGCTCCAGAAAGCCTGTGTAGTGTGGTGGGCTGCTGTGTGACCAAC
CTGTCTACTCGACCACTCACTCAATCCCTCGTAAAGAACTGTGTATGGACGGGCACCACTTCGTCACAGAACTCACTACAGAGGCTTTTCGGACACATCACACACCACCCGGACGGACCACTGTTTTG

4050

PSEN2

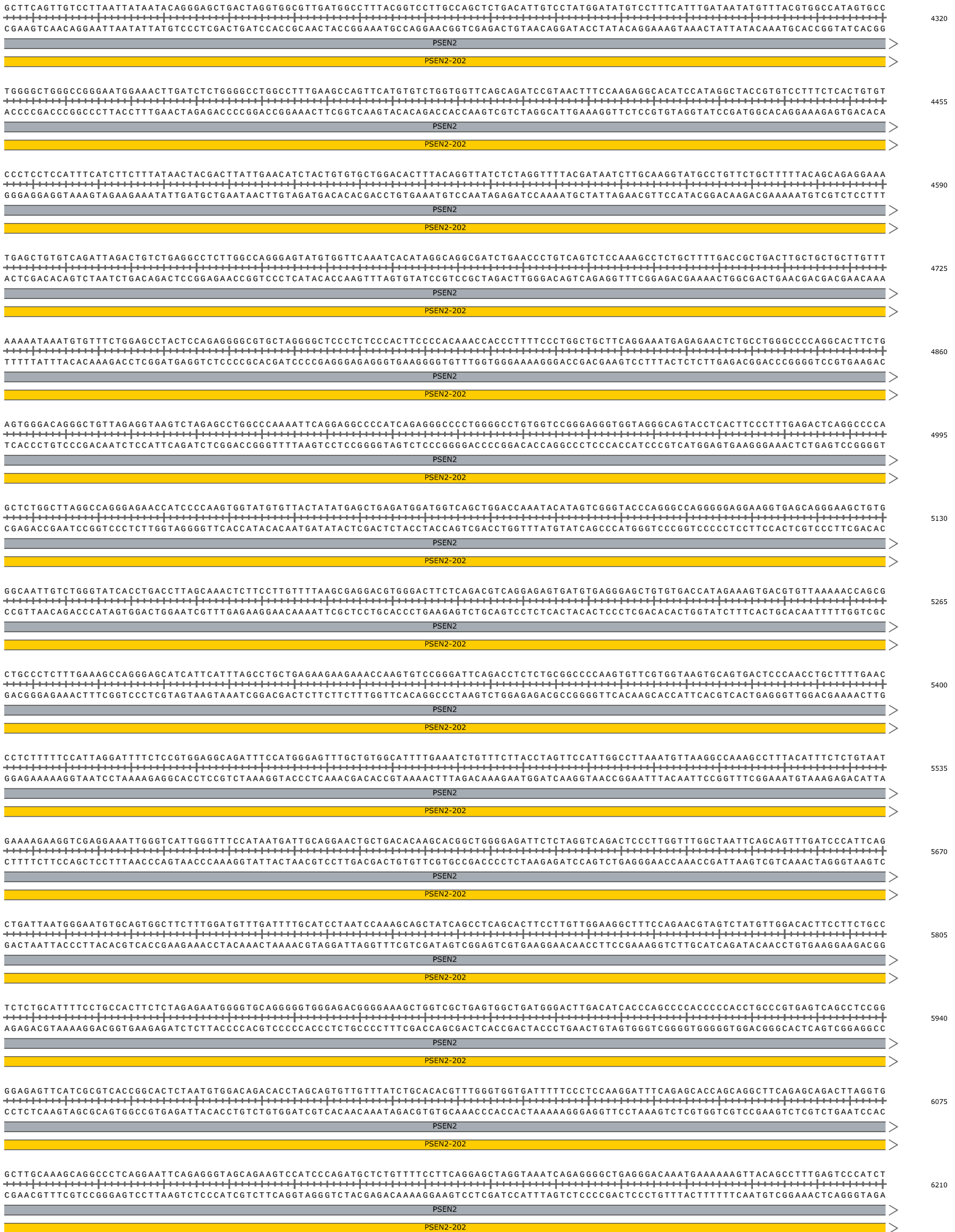
PSEN2-202

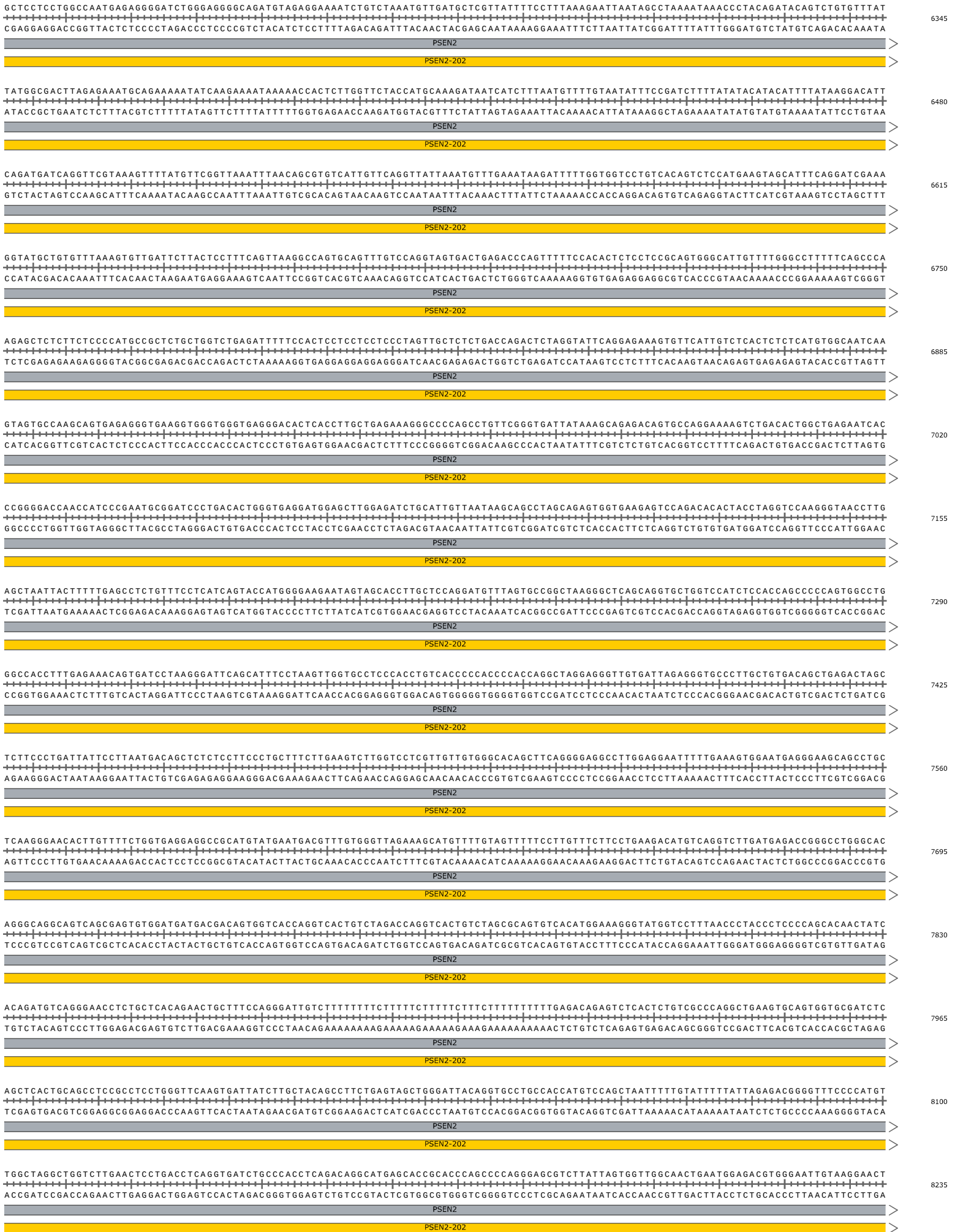
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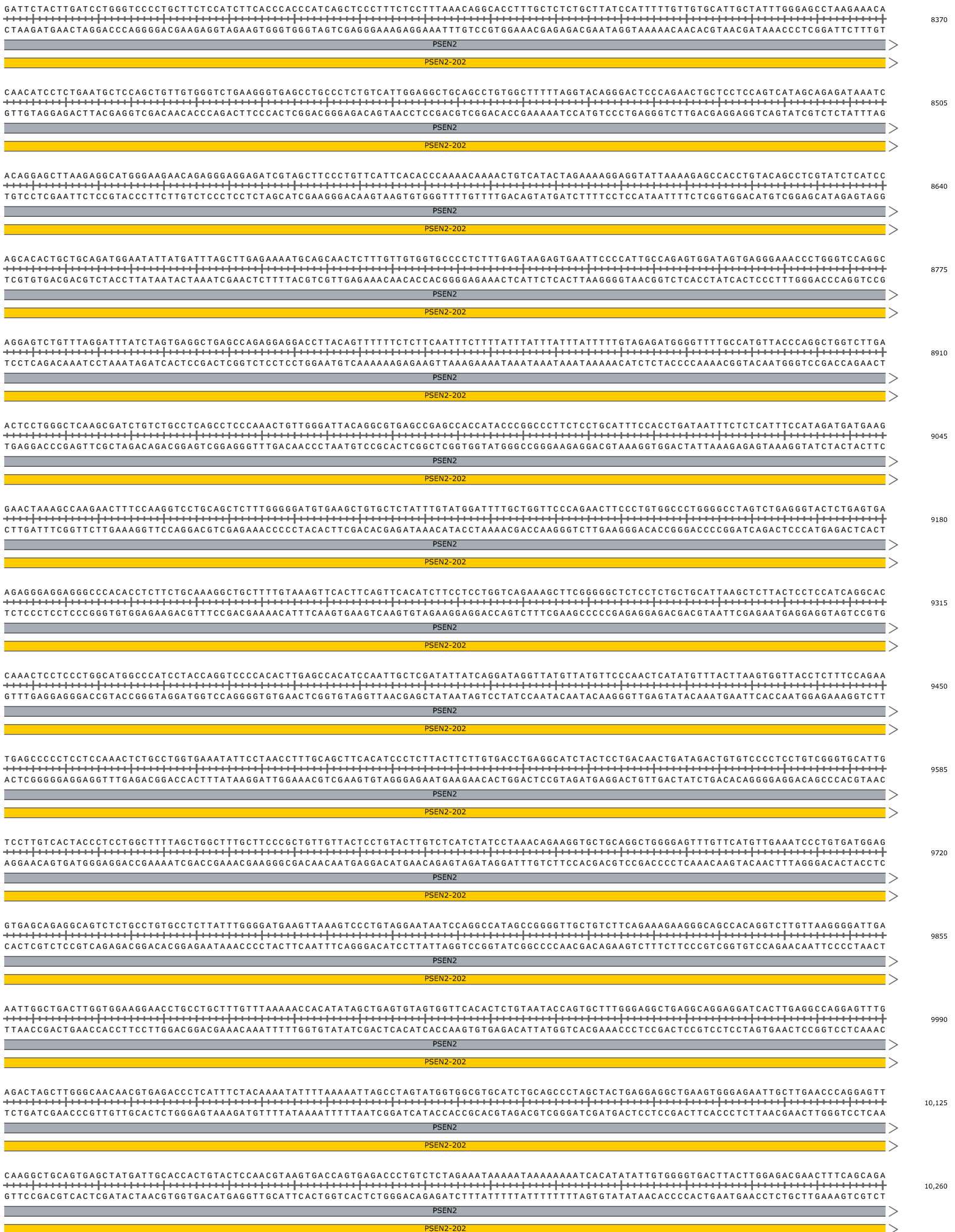
4185

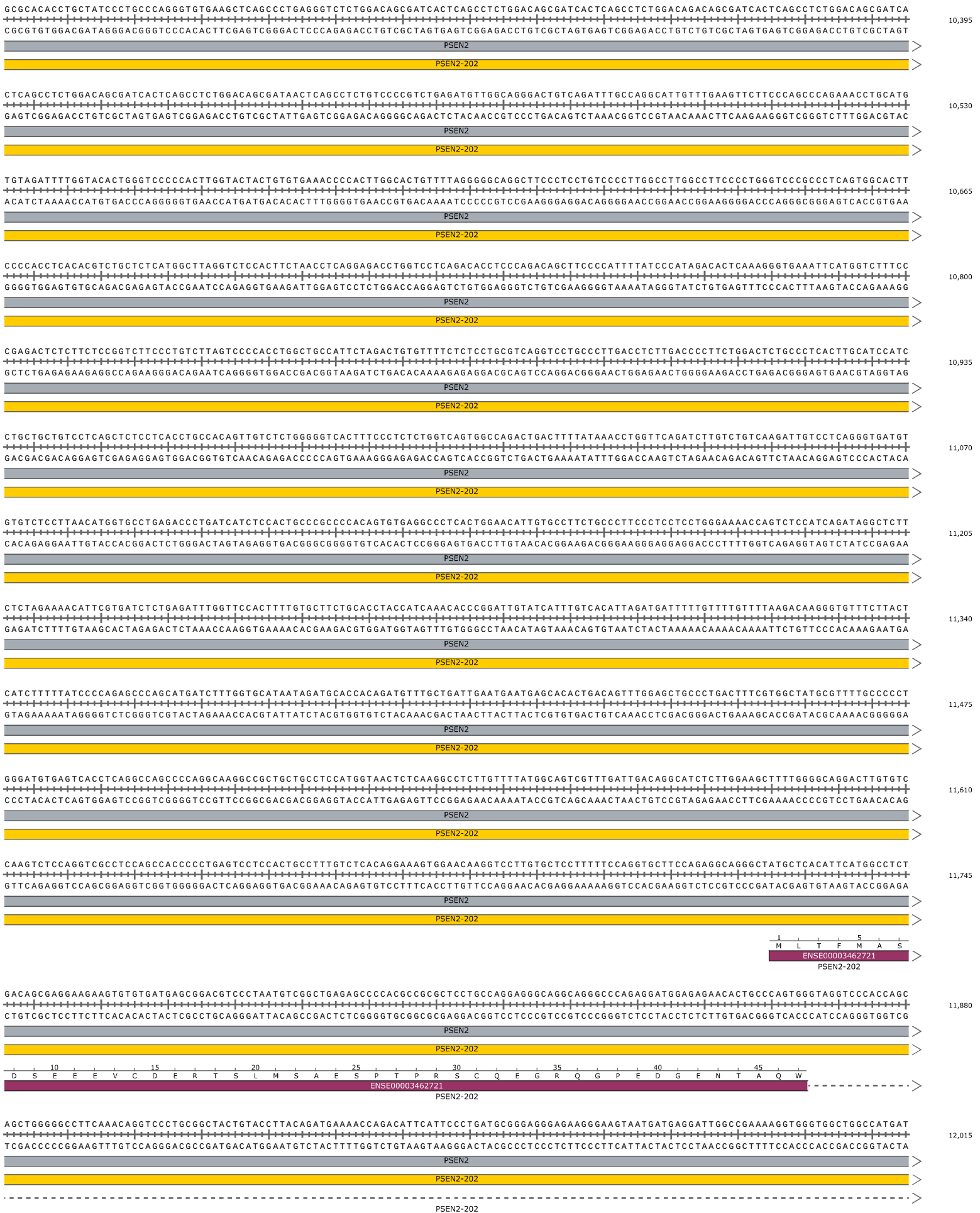
PSEN2

PSEN2-202









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CCTGGAAGGTAGACGTCCCAAAGTATCTGACGCGTAAGTGTCTGGTCTCTACCTGAACCGTCAACCGACTTCTGCGACAGGTGAGACGGTGAACCCAATGGAGAGAGTACGTCCAGTGACAAGGTTGACATT

12,150

PSEN2

PSEN2-202

PSEN2-202

TAGGAGAGTTTGTGGATGCCTGGGTGCTAGGACAGGTAACACAGAAGCTTAGGATGGTAGCAGGGGAAGCATTTTTGGCAGATGGCCAGACATGGTAAGTGTGAGAGGAGTCTGCCTGATACACGATTGACT
ATCCTCTCAAACAACCTACGGACCCACGATCTGTCCATTGTGTCTTGAATCTACCATCGTCCCTTCGTAACAAACCCTACCGGTCTGTACCATTACACACTCTCCAGACGGACTATGTGCTAACTGA

12,285

PSEN2

PSEN2-202

PSEN2-202

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AAACTCGACCCCTATAAACCCGAAGTGACACTAGTAAGTCGGGGTCCCTCTTAACATTGCAATCTTCTCATCTATAGCAACCTCTCGGTGAATCAACACAGGAAAGAGAGGGCTAGTCCCGTCTTGTA

12,420

PSEN2

PSEN2-202

PSEN2-202

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12,555

PSEN2

PSEN2-202

PSEN2-202

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CTTGCCCTGGTAGCAGGGATTCGGGACTCACTTTAGTGTGGTGAATTCGGGTGACGAGACGGTGAAGGAGTCGGAAAAGAACAAACAATAGAGGCCCTTCAAAACATGTGAAACCAACAAAGTCAAAGACAAGTA

12,690

PSEN2

PSEN2-202

PSEN2-202

GAGTAGTCTTCTTTCTGGCTGAACGCTAGATTGGGACTCTCTCTGCAGAGAACCGGTACTGAAGCAACTGTCATTTTCAGTTTTGTTTCATTTGGCTTTTTCTTTAGCTGTTCACTCATTAGCAAGGCACG
CTCATCAGAAGAAAGAACCGACTTGCAGATCTAACCTGAGAGAGACGTCTCTTGCCATGACTTCGTGACAGTAAAAGTCAAAAACAAAGTAAACCGAAAAAGAAATCGACAAGTGGAGTAATCGTTCCTGTCG

12,825

PSEN2

PSEN2-202

PSEN2-202

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12,960

PSEN2

PSEN2-202

PSEN2-202

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13,095

PSEN2

PSEN2-202

PSEN2-202

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13,230

PSEN2

PSEN2-202

PSEN2-202

GGGAAAGATCTTTGATTCATTAACCATTAAGTTGATTATTAACCATTAAGTCTTGGGCTGCGAGACCATAGCAACCTTCTTCTCCTTATGTTGCTTTCATCCAGCTCCAATCTTCTACTTTGTCTC
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13,365

PSEN2

PSEN2-202

PSEN2-202

ACAAACTTTTCATATGCCCTAGTAGCTCATAGACTGCTCCTATATCTGAAAGCAACATCAAACTTCTCATTCTGTTTCCAAAAATCCGTGCATTACATGGATAGGCTGCCGTGGGGACATTTGCGGGCC
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13,500

PSEN2

PSEN2-202

PSEN2-202

TCACGATGTGGTTTCCACAGAGAAGCCAGGAGAACGAGGAGGACGGTGAAGGAGGACCTGACCCTGTGTCTGTAGTGGGGTCCCGGGCCGCGCCAGGCCCTGGAGGAAGAGCTGACCCCTCAAATACGGAGCG
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13,635

PSEN2

PSEN2-202

R S Q E N E E D G E E D P D R Y V C S G V P G R P P G L E E E L T L K Y G A
ENSE00001071125

PSEN2-202

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13,770

PSEN2

PSEN2-202

K H V I M L F V P V L C M I V V A T I K S V R F T E K N G Q L
ENSE00001071125

PSEN2-202

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CTCCCGACTCAACGGTCCCGCCACCCCGCGTGTGCGACACAACCAAGTGCATGGACGTCGAGGTGGTGTGCTGCCATTTCTCGTCCCTACTTCTTGGCGGGTCCAAGTACCGGACCGAGTGACGGAGGACCT

13,905

PSEN2

PSEN2-202

PSEN2-202

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14,040

PSEN2

PSEN2-202

PSEN2-202

CGTGAGTGCACGGCAAGCTGGATCCTGCTGCAGAAAGCAAGCTTGTATCCTGGGCATGGCTGTGCCACTGATCCCTGTGTGACTGCAACAATACTTCTCTCTGAGTCTCTGCTTCCCTGAATGTGAAAC
GCACTCACGAGTCCGTTGACCTAGGACGACGCTTTTCGTTGAGAACTAGGACCCGTACCGACACGGTGACTAGGGACACACTGACGTTTGTTTAGTGAAGGAGAGACTCAGAGACGAAGGGACTTACACTTTG

14,175

PSEN2

PSEN2-202

PSEN2-202

AAGGTGGTTGGACCAGATATTTCTCAGCTCACTTCCAGCCTTGTGAGGAAGACTTATAAAGCCTTTTCGTTATTTTAGTAAATACATGCAGAGGCAGCAGCGTAGAAAAATGAGAAGCTTCTCCACTTCTTCC
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14,310

PSEN2

PSEN2-202

PSEN2-202

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14,445

PSEN2

PSEN2-202

PSEN2-202

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14,580

PSEN2

PSEN2-202

PSEN2-202

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14,715

PSEN2

PSEN2-202

PSEN2-202

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14,850

PSEN2

PSEN2-202

PSEN2-202

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14,985

PSEN2

PSEN2-202

PSEN2-202

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15,120

PSEN2

PSEN2-202

PSEN2-202

Sanger Sequencing Primer
TGCCAGGAAATGAGCTGGAG

PCR Forward
TGCCAGGAAATGAGCTGGAG

CTGCACCTGGGCCAGTTGGCAGGCTGAGAGCCACAGGCTGTGGTCAGGGTGCCAGGAAATGAGCTGGAGGACAGGAACTGCTCATGGGGATGGTCCCCGACTCCATCAGGGCAGCATGTGGGAGCATGGGCA
GACGTGACCCGGGTCAACCGTCCGACTCTCGGTGTCCAGACACCAAGTCCCACGGTCTTTACTCGAGCTTCTGTCTTACGAGTACCCCTACCACGGGCGTGAGGTAGTCCCGTCGTACACCCGTCGTACCCGTC

15,255

PSEN2

PSEN2-202

PSEN2-202

Donor Template WT -> SNV
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15,390

PSEN2

PSEN2-202

PSEN2-202

120 I Y T P F T E D T P S V
125
130
ENSE00003465186

Donor Template WT -> SNV

Donor Template WT -> SNV

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GGGCCAGCGCCTCCTCAACTCCGTGCTGAACACCCCTCATCATGATCAGCGTCATCGTGGTTATGACCATCTTCTTGGTGGTCTCTACAAGTACCGCTGCTACAAGGTGAGGCCCTGGCCCTGCCCTCCAGCCAC
CCCAGTCCGCGGAGGAGTTGAGGCACGACTTGTGGGAGTAGTACTAGTCGAGTAGCACAATACTGGTAGAAGAACCCACGAGATGTTTCATGGCAGCATGTTCCACTCCGGGACCGGGACGGGAGGTCGGTG

15,525

PSEN2

PSEN2-202

PSEN2-202

Donor Template WT -> SNV

PAM Protospacer Sequence

SNV

ACGACTTGTGGGAGTAGTAC
gRNA Protospacer

135 140 145 150 155 160 165
G Q R L L N S V L N T L I M I S V I V V M T I F L V V L Y K Y R C Y K
ENSE00003465186

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15,660

PSEN2

PSEN2-202

PSEN2-202

GCACTTTGTGGCGGAAATC
PCR Reverse

ACCTAATACTGTTGCTTTTATTTTTATTTTTCTTTTTCTTGAACATGGTCTCACTCCATTGCCAGGCTGGAGTGCAGTGGTGGCATGACTCACTGCAGCCTCAACCTCCTGGGCTCAAAGTTCTCCC
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15,795

PSEN2

PSEN2-202

PSEN2-202

ACCAGCCCTCAAGTAGCTAGGACTACAGGTTTGCACCACCATACCTGGCTAATAAAAAATTTTTTTTGTGCAGGCTAGATCTCACAGTGTGGCCAGGCTGGTCTCAAACCTCCTGGACTCAAGTGATCTCC
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15,930

PSEN2

PSEN2-202

PSEN2-202

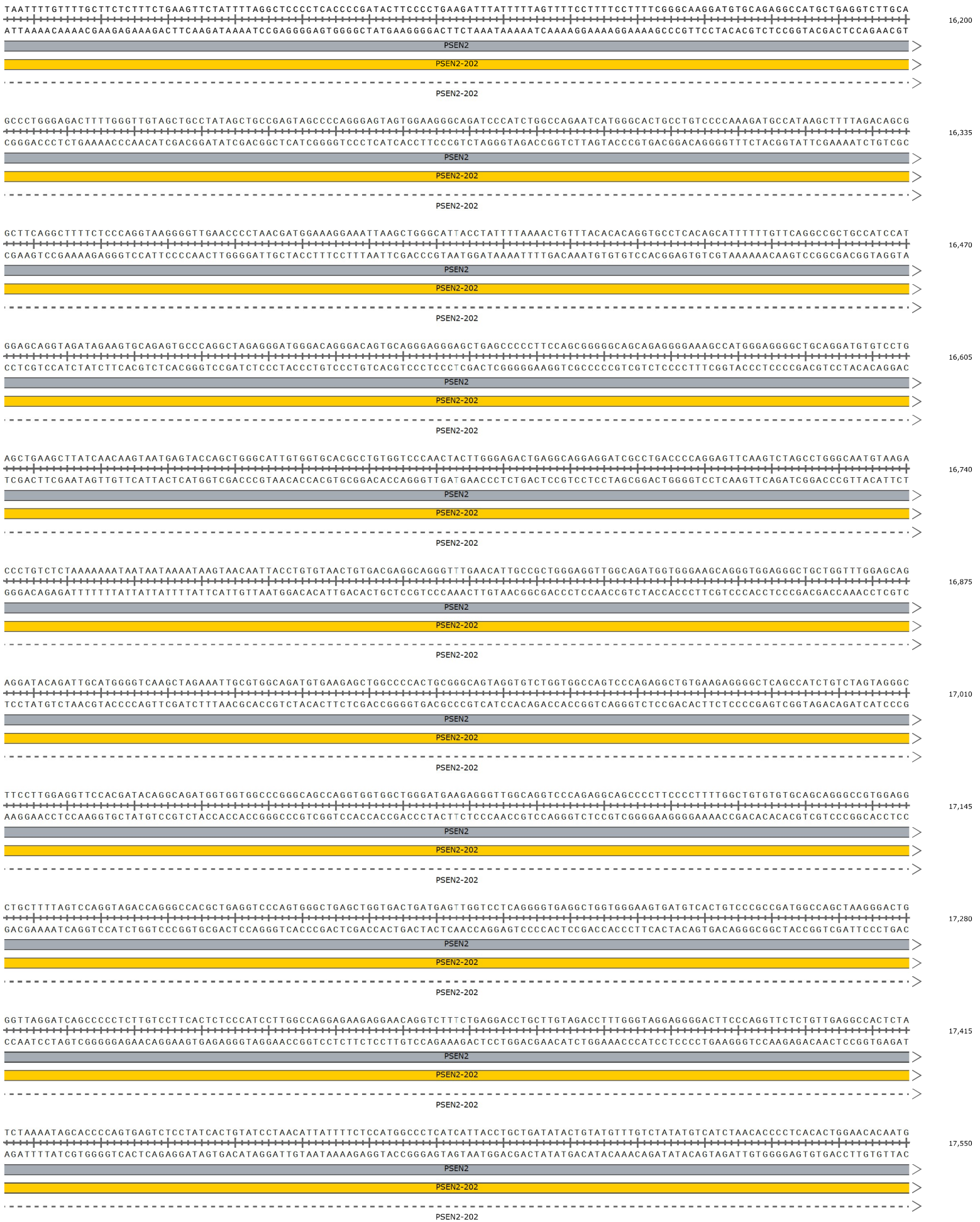
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16,065

PSEN2

PSEN2-202

PSEN2-202



CCCGTGGGCAAGAGACTTTGCTAGCCTTGTTCCAGAGCCTAGAACAAGTGCCTGGCAAGTAGGAGACCCAGCATTACCTTTCTAAGTGAACCAAGTAGAGATGGGGGGAGCCGCAAGGCTATTGCCGGCAGACCT
GGGCACCCGCTCTCTGAAACGATCGGAACCAAGGCTCTCGGATCTGTACGGACCCTTCATCCTCTGTGGGTCGTAATGGAAAGATTCACTTGGTCATCTACCCCCCTCTGGCGTTCGATACGGCCGCTCTGGA

17,685

PSEN2

PSEN2-202

PSEN2-202

GAGGGAGTCTGTCTGCATGCGCTGCAGGATGACCTGAGGGGAACCTCTGGACTTCTGTGCCCTTTTATCTGTAAGGTGGCCACCTGATCCCTTCCAGCGTAGGCATGAAGTAGCCTAATGAAGAGCATTACG
CTCCTCAGGACAGACGTCACGCGAGCTCTACTGGACTCCCTTGAGGAACCTGAAGACACGGGAGAAATAGACATTCACCGTGGACTAGGGAAGGTCGCATCCGTACTTCATCGGATTACTTCTCGTAAAGTC

17,820

PSEN2

PSEN2-202

PSEN2-202

GCTTGGGTATCAGTCTCAGGATCTCGGGGCCCTTAGAATTTGTGGCGCTTGGGGACACCTTGTGATCGTGCAATTTCTGTTGTCTAGTTCATCCATGGCTGGTTGATCATGTCTTCACTGATGCTGCTGTTCCCTC
CGAACCCATAGTCAGAGTCTTAGGACCCCGGAATCTTAACACCGCGAACCCCTGTGGAACACTAGCACGTTAAAGACAACAGATCAAGTAGGTACCGACCAACTAGTACAGAAGTGACTACGACGACAAGGAG

17,955

PSEN2

PSEN2-202

PSEN2-202

F I H G W L I M S L M L L F L
ENSE00003590454

TTCACCTATATCTACCTTGGGTAAGTGACAGATAAGCAGCAGGGTCCCTGGGAGCCCTCTCCATGTGGCACAAGTGGACATGGGCATGAGGACCTGGCGGGGAAAGATGACCATCGAGCTCCAGTCTTCCCCA
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18,090

PSEN2

PSEN2-202

PSEN2-202

185
F T Y I Y L G
ENSE00003590454

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18,225

PSEN2

PSEN2-202

PSEN2-202

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18,360

PSEN2

PSEN2-202

PSEN2-202

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18,495

PSEN2

PSEN2-202

PSEN2-202

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18,630

PSEN2

PSEN2-202

PSEN2-202

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18,765

PSEN2

PSEN2-202

PSEN2-202

190 195 200 205 210 215 220 225
E V L K T Y N V A M D Y P T L L L T V W N F G A V G M V C I H W K G P L V L Q Q
ENSE00001071130

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18,900

PSEN2

PSEN2-202

PSEN2-202

230 235 240 245 250 255 260
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ENSE00001071130

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19,035

PSEN2

PSEN2-202

PSEN2-202

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19,170

PSEN2

PSEN2-202

PSEN2-202

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19,305

PSEN2

PSEN2-202

PSEN2-202

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19,440

PSEN2

PSEN2-202

PSEN2-202

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19,575

PSEN2

PSEN2-202

PSEN2-202

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19,710

PSEN2

PSEN2-202

PSEN2-202

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19,845

PSEN2

PSEN2-202

PSEN2-202

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19,980

PSEN2

PSEN2-202

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ENSE00001071132

PSEN2-202

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20,115

PSEN2

PSEN2-202

PSEN2-202

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20,250

PSEN2

PSEN2-202

PSEN2-202

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20,385

PSEN2

PSEN2-202

PSEN2-202

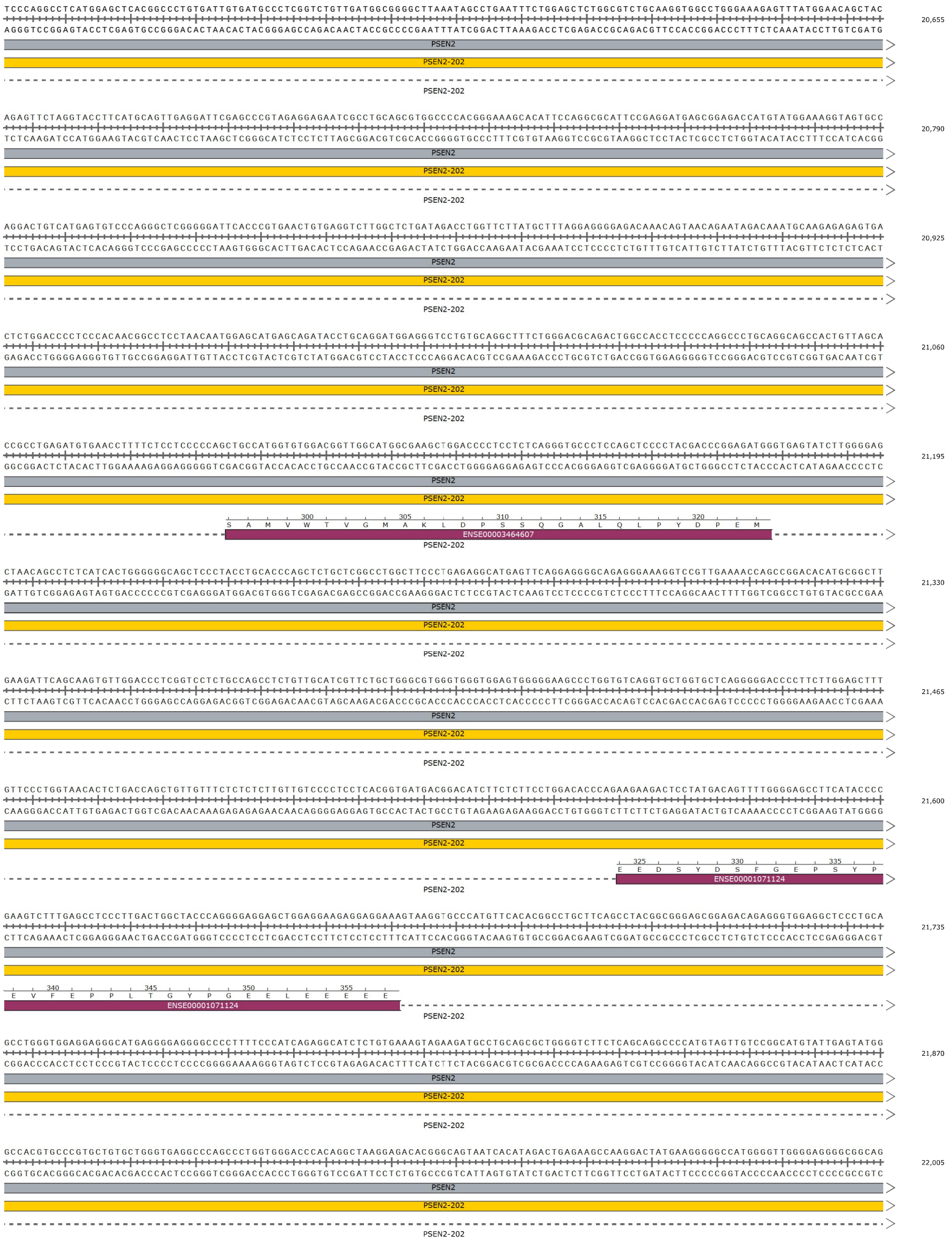
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20,520

PSEN2

PSEN2-202

PSEN2-202



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22,140

PSEN2

PSEN2-202

PSEN2-202

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22,275

PSEN2

PSEN2-202

PSEN2-202

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22,410

PSEN2

PSEN2-202

PSEN2-202

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22,545

PSEN2

PSEN2-202

PSEN2-202

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22,680

PSEN2

PSEN2-202

PSEN2-202

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22,815

PSEN2

PSEN2-202

PSEN2-202

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22,950

PSEN2

PSEN2-202

PSEN2-202

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23,085

PSEN2

PSEN2-202

PSEN2-202

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23,220

PSEN2

PSEN2-202

PSEN2-202

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23,355

PSEN2

PSEN2-202

PSEN2-202

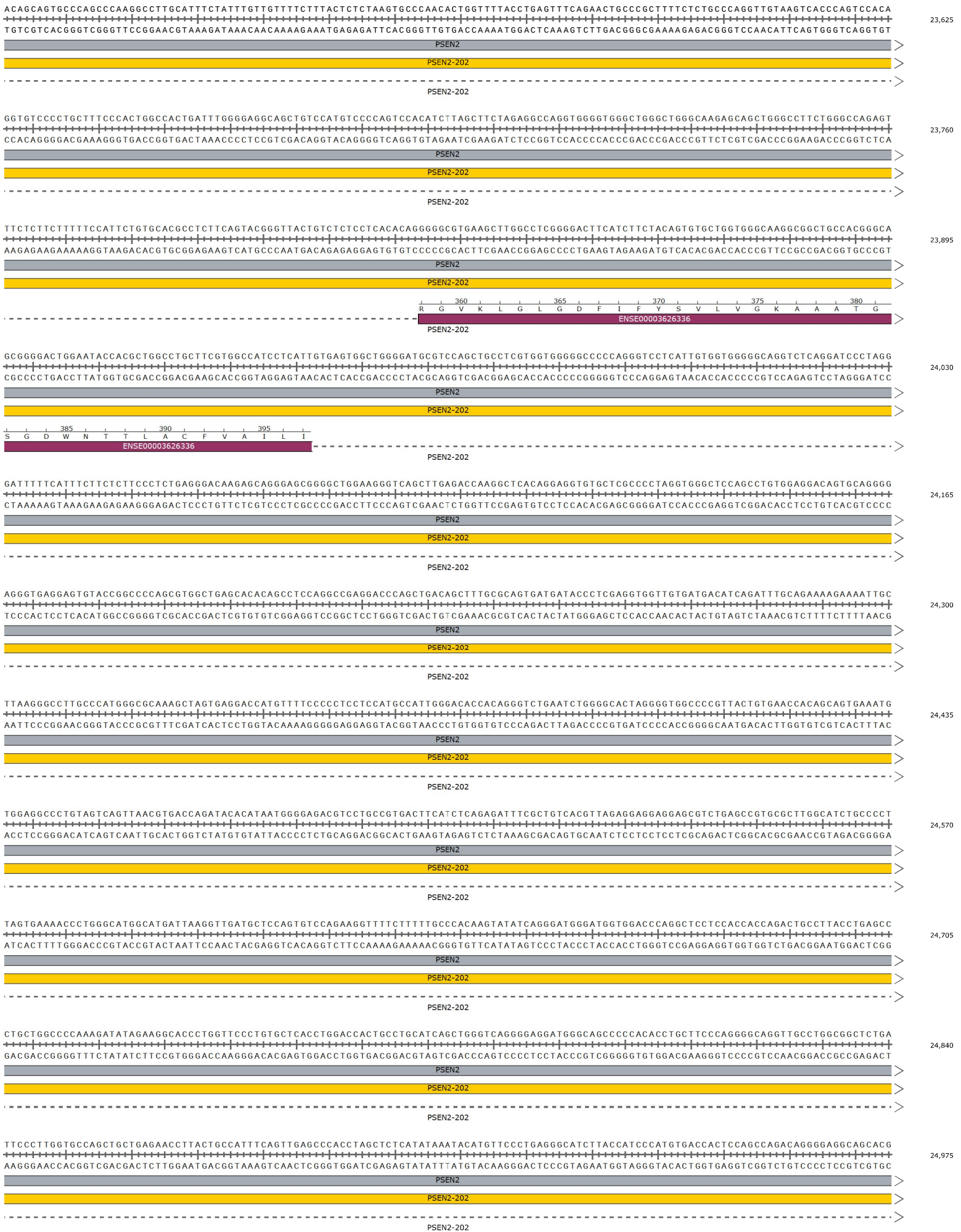
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23,490

PSEN2

PSEN2-202

PSEN2-202



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PSEN2

PSEN2-202

PSEN2-202

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PSEN2

PSEN2-202

PSEN2-202

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ENSE...

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PSEN2

PSEN2-202

400 405 410 415 420 425 430 435 440
C L T L L L L A V F K K A L P A L P I S I T F G L I F Y F S T D N L V R P F M D T L A S H
ENSE0001442607
PSEN2-202

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PSEN2

PSEN2-202

445
Q L Y I
ENSE0001442607
PSEN2-202

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PSEN2

PSEN2-202

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PSEN2

PSEN2-202

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PSEN2

PSEN2-202

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PSEN2

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PSEN2

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PSEN2

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PSEN2

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PSEN2

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PSEN2

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PSEN2

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PSEN2

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27,135

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27,270

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27,405

PSEN2

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27,540

PSEN2

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27,675

PSEN2

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27,810

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27,945

PSEN2

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28,080

PSEN2

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28,215

PSEN2

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28,350

PSEN2

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28,485

PSEN2

AGCAGCTGATCTTGGCTCACTGCAAGCTCCGCCTCCGGGTTTCATGCCATTTCTCTGCTCAGCCTCCTGAGTAGCTGGGATTACAGGTGCCTGCATCACGCCGGCTAGTTTTTTGATTTTGGAGTAGAGA
TCGTGCACTAGAACCGAGTGACGTTTCGAGGCGGAGGGCCCAAGTACGGTAAGAGGACGGAGTCCGAGGACTCATCGACCTAATGTCCACGGACGGTAGTGGGGCGGATCAAAAACATAAACTCATCTCT

28,620

PSEN2

TGGGTTTTACCCTGTTAGCCAGGAGGGTCTCGATCTCCTGACCTCGTGATCCACCCGCTCGGCTCCCAAAGTCTGGGATTACAGGTGTGAGTCACTGCGCCAGCCAAAGTTTCTTCTGTTACTTGT
ACCCCAAAGTGGCACAATCGGTCTCCAGAGCTAGAGGACTGGAGCACTAGGTGGGCGGAGCCGAGGGTTTTACAGACCTAATGTCCACACTCAGTGACGCGGGTCGGGTTCAAAGGAAGAGACAATGAACAA

28,755

PSEN2

CATATCTCTGCCATTTTTCACTTGGATTTTTGCTTACGGATTTAAGCCTCTTAAAATATATATCTGGAGAGATGCTAATCTTGGATTAATATATGATTGCAAAATGCTGGTACATTGTGGCTTGGC
GTATAGGAGACGGGTAAGAAAGTGAACCTAAAACAGAAATGCCATAAATTCGGAGAATTTATATATAAGACTCTCTACGATTAGAAACTAATTAATATACGTAACGTTTACAGACCATGTAACACCGAACGG

28,890

PSEN2

TCTCTCCCTGCCTTTAGGAGTGTGTTGCTGGACCCAAGTAATTTTTAAATGTTAATGTTAATAACTCTACAGTTTTTGGCTGTATGGCTTATGCCATTGAATCTGTTTTAAGAGATCCTTCCCTACCCTCA
AGAGAAGGACGGAAATCTCACAACGACCTGGGTTTCAAAAATTTACAATTACAATAATTTAGATAGTCAAAAACGAACATACCGAATACGGTAACCTAGAACAAAATCTCTAGGAAGGGATGGGAGT

29,025

PSEN2

AGGTTTTCTAAATTTTTATTTTCATAATAAGATTTTTAGTTCATCTGAAATGATTTTTATGATTGTATTTAGTAGGGACCTAATTTTTGTTTTCTTTGTAACAGGTTGCCAGCACTGTTTACTGAAACAGTCT
TCCAAAAGATTTAAAATAAAGTATTATTTCAAAAATCAAGTAGACTTTACATAAAAATACTAACATAAATCATCCCTGGATTAAAACAAAAGAAACATTGGTCCACAGGGTCTGACAAATGACTTGTCAAG

29,160

PSEN2

CTCTTTCTGCTGGTCTGTAGAACTCTCTGACATATACCAAGTTCCATAAGTGGTGGATGGGTTCTGAGCTCTCTACTGTTAATAGAACTGCTCTCTCGAGGCAATGCCTCACAGGTGATTGAAGC
GAGGAAAGAGCGACAGACATCTTGAGAGGACTGTATATGGTTCAAAGGATTTACCCACCTACCCAAAGGACTCGAGAGATGACAATATCTTGAACGAGAGAGCGTCCGGTTACGGAGTGGTCCACTAACCTTCG

29,295

PSEN2

AGAGAACTTAGGTTGAAAGGAGAAGATGGGGCTGTCTGAGAGTTTCTGTTCTGAGATGCTAGAGGCAGAGGGTATGTAATCTGAAGTTACACTGGATCTCTAAAACAGTATAAAGCTACAGAAGTAT
TCTCTTTGAATCCACCCTTTCTCTTACCCTGGACAGGACTCTCAAAGACAAGGACTCTACGATCTCCGCTCCCATACATTTAGACTTCAATGTGACCTAGAGGATTTGTCATATTTGATGCTTTCATA

29,430

PSEN2

AATAGTGTGGAATGGTGGTGGGAGTCAGTAAGGGTTAGGCTACTGCAAGTGGTTAAACAAGATGGGCTAGAATCCTTTCACAGGCACAGGCAGCTGGAGAGGGTGAATAGTGCATGGTATCAGGGTCCAGATG
TTATCACACCTTACCACCCTCAGTCAATCCCAATCCAGTGACGTCACCAAAATTTGTTCTACCCTGATCTTAGGAAAGTGTCCGTGTCGGTGAACCTCTCCACGTTATCAGTACCATAGTCCCAGTCTAC

29,565

PSEN2

CCTCTTTTCCCTTTGAGATCAGTAAGTGGCTTTCACCTCATGACCTAGGCTGGCTGCTGTGTGCTAGCCGTC AAGTCA CACTCCATCCAGCATGAAAAGGAGTTAGAAAAGGGTGCATTTCCCTCTCTTAAAAAC
GGAGAAAAGGAACTCTAGTCATTACCCGAAAGTGGAGTACTGGATCCGACCGACACACACGATCGCCAGTTCAGTGTGAGGTAGGTCGACTTTCCCTCAATCTTTCCACGTAAGGAGAAATTTTG

29,700

PSEN2

ATGCTCAAAGTTGCACACAGCACTTTTGCCTATATTCAATTGGCCATTAGTCCCACGGCCATACTGTCTGAGACTGAGAGACTGGGAAATGCTTTATTTCAAGTGGCCATATATCCACCTAAACAAGATAAG
TACAGAGTTTCAACGTGTGTCGTGAAAACGGATATAAGTTAACCGGTAATCAGGGTGCCGGTATGACAGACTCTGACTCTCTGACCCCTTACAGAAATAAAGTTACCCGGTATATAGGTGGATTGTGCTATTTC

29,835

PSEN2

GGATACGTGGTTATGGCGTGTCTTTGGTTTACCAATGCAGATAATGAAGTTACCAAAACAATGAGAAAAATGGGGTCTGAGGGATCATGTGAATCACAAGCTGATGTCTTCAAAGACGGTGGAAATGGGCCCCG
CCTATGCACCAATACCCACAGAAAACCAATGGTTACGCTTATTACTTCAATGGTTTTGTACTCTTTACCCAGCACTCCCTAGTACACTTAGTGTTCGACTACAGAAGTTCTGCCACCTTACCCTGGGGC

29,970

PSEN2

GGAGGCAGCAGATGACAGCAGTGGGGATTAAGGTAGACCTCCATCTGGGGTTAAAAATGAGGGGAAGGTGATGGAGCTGGACAGCAGTCAAGATGGTCAAGTGGTTAGGAGACCCCTGCCCCACCCGTGCCA
CCTCCGTCTACTGTCTGTCACCCCTAATTCATCTGGAGGTAGGACCCCAATTTTACTCCCTTCCACTACCTCGACCTGGTCTGTCAGTCTTACCAGTCACCAATCCTCTGGGAGACGGGGGTGGCGACGGT

30,105

PSEN2

CCATTGGCTCTACAGAAATGCTGCGAGTGGCTTAGAGTGACCAAGGATGAGGTGCAGATCCATGTGCACCCCTGCCCTCTGTGGACAATTTTATGCTGACAGCAGTCTATGTGGATTGCAAGCCG
GGTAACCGAGAGATGCTTACGGACGCTCACGAATCTACTGGTTCTACTCCAGCTTAGGTAACAGTGGGGGACGGGGAGACACCTGTTAAAAGTACGGACTGTCTGTCTCAGATACACCTAACGTTCCGGC

30,240

PSEN2

ATGAACTATGCAAAGTAGAAGCATGCCGTCAGTTTGTGATTCGGTGATGTGTTTTATGCTTATGTGAGTCAAGTGGGGCGCAGGGTCTGTGGTCAACCGCTGAGAAGGAAGGGTCTGTAACTGCTCTT
TACTTTGATACGTTTTCATCTTCTGACGGACGTCAAACACTAAGCCACTACACAAAATACGAATACACTCAGCTTACCCTCCGCTCCAGGACACAGTGGCGACTCTTCTTCCAGGACATTGGTGACGGAAA

30,375

PSEN2

CTTTCAGCTACTTGAGAAAGGTGTTGTGAGGGACCGTGGATTTTGGGACAGCTTTGAATGGTGGTAGGGAGGAAGGGTCCGGTCTGAGTGAATGGCCAGAAAGCTGTGGGAAGCTTTTAGGACATTGGCCAAGA
GAAAGTCGATGAACTTTCCACAACACTCCCTGGCACCTAAAACCTGTGAAACTTACCACCATCCCTCCTTCCAGGCCAGACTCACTTACCCTGTTTCCGACACCCCTTCCGAAATCCTGTAAACGGTTCT

30,510

PSEN2

GCTCCCTGAAGGCAGCCAGGGAGATACTTGTGACGATGACTAATGGCCAACTGAATATAAGCAGAAGTGTGTGTTGCTGTGTGCAACACTGGACACCTTAGGAAGGACCTCGAGACAGTGGTGTGGACT
CGAGGGACTTCCGTGGTCCCTCTATGAACAGTCACTGTACACTGATTACCGGTTGACTTATATTCGCTTTCAGGACACAACGACACACGTTGTGACCTGTGGAATCCTTCTCGAGCTGTGTACCAACACCTGA

30,645

PSEN2

CTGTAGAGAGTAACAGTGACAGTAGCAAACCTTACCAGTGCCAACTTGTGCTAGGCTCGCACTAAATGAGTTTACCTTCAATTCCTGTAACAATAGGAGGTAACACTACTTCTAATTTCCATTTTATAGATG
GACATCTCTCATTGTCACTGTCACTGTTTGGGAATGGTCCAGGTTGGAACACGATCCGAGCGTGATTACTCAAAATGGAAGTTAAGAGCATGTTATCTCCATTGATGATAAGATTAAAGTTAAATATCTAC

30,780

PSEN2

AGGAACTAAGGCACAGAGTCACTGACTTGCCCAAATCAAGCAGGGAGTAGTTAGTATATAAGCCACGGTATGTGGTTTGTAGAATAGGTGCTTGTACTAGCAGAAATAGGTCCTCCCTCGAGTGTGTAAT
TCCTTTGATTCGGTGTCTCTAGTACTGAACGGGTTTAGTTCTGCTCCCTCATCAATCATATATTCGGGTGCCATACACCAAACATCTTATCCAGAGAACTGATCGTCTTATCCAGGAGGGACGTACACATTA

30,915

PSEN2

TGATAACAAGCATGGCTGCCATCTTCTGTGAGGCCACTCAAACACCCAACAGGCTACGCACGGTGGCTCACACCTGTAATCCAGCACTGTGGAGGCCGAGGTGGCGGGTCACTGAGGTCAGGAGTTC
ACTATTGTTCTGACCCGACGGTAGAAGGACAGCTCCGGTGAAGTTTGTGGTTGTCCGATGCGTGCCACCGAGTGTGACATTAGGGTCTGTGACACCTCCGGCTCCACCCGCGCAGTGAACCTCAGTCTCAAG

31,050

PSEN2

GAGACCAGCTGGCCGACATGGTGAACCTCCGCTCTACTAACAGTACAAAATTAGTGGCGTGGTGGCGGGCACCTGTAATCCAGCTACTCAGGAGGCTGAGACAGAAGAATCACTTGAACAGGGAGGCA
CTCTGGTCCGACCGGCTGTACCCTTTGAGGCAGAGATGATTGTCACTTTTTAATCGACCCGACCCACCGCCGTTGACATTAGGGTCTGATGAGTCTCCGACTCTGTCTTCTAGTGAACCTGGTCCCTCCGT

31,185

PSEN2

GAGGTTCAGTGAGACAAGATCACGCCATTGCACTCCAGCCTGTGTGACAAAAGCGAAACTGTCTCAAAAAAAAAAAAAAAAAAGTATGATTTTATAATCCAGCACCTTGGGAGGCTGAGTCTGTGAGAATCAC
CTCCAACGTCACCTGTTCTAGTGCAGTAACTGAGGTGCGACACACTGTTTTCGCTTTCAGAGAGTTTTTTTTTTTTTTTTTTCATACTAAAATATTAGGGTCTGGAACCCCTCCGACTCAGCACTCTTAGTG

31,320

PSEN2

TTGAGCCAGGAGTTAAGACCAATCTAGGCAACATGGCAAGACCCATCTCTGCCAAAAATAAAAAATAGTCTAATTTTAGCTATTCACTGTGTGTGAAAGTGGTCTCTCTCGTGGCTTTGATCTGCATTTCC
AACTCGGGTCTCAAATCTGGTTAGATCGGTTGTACCGTTCTGGGGTAGAGACGGTTTTTATTTTTTATCAGATTAAAATCGATAAGTACACACACTTCCACACAGAGAAGCACCAGAACTAGACGTAAGG

31,455

PSEN2

CTAATGCTGACTAATGACGTTGGGCACCTGTTCACTGCTTACTGGTCAAGATATCTTTCTTTGTTACATTTTATTAAGTTTTAAAAATTAAGTCAAAGATTTCCCTATGAGAATGACTTTTAAAAATGACCAA
GATTACGACTGATTACTGCAACCCGTGGACAAGTACACGAATGACCACTATAGAAAAGAAAACAATGAAAAATAATCAAATTTTAAATTTTCAAGTTCTAAAGGATACTCTTACTGAAAATTTTACTGGTTT

31,590

PSEN2

AAGGGGAAGATAACATTAATCTTGAAGAGAAGGCCCTCTGAGAAAAATACAGTTGTAGCAAGCTGCTACTTTGCAAAATGACCCATGCAATTTTAAATTTCCCTAAGGAAGCCAAAGGAAGTCTTATACCTCA
TTCCCTTCTATTGTAATTAAGAACTTCTCTCCGGAGACTCTTTTATGTCAACATCGTTTCAGCATGAAACGTTTACTGGGTACGTAATAATTAAGGGGATTCCTTCCGGTTCTCTCAGAAATAGTGAAGT

31,725

PSEN2

GGCAGGAGATGATGGACTTGGGTCATTTAATAAGAGTGGTAGGTTGAAAACCTCAAACCCAGAAGACTCCTTAGAGTTTCTCCAGGAGGTAGGGAAGGGCCGATCCATGGAGAGGAGGATGTGACTTA
CCCGTCTCTACATCCCTGAACCCAGTAATTTATCTCACCATCAAACCTTTGAGTTTGGGCTCTCTGAGGAATCTCAAAGAGGGTCTCCATCCTTCCCGCGGTAGGTACCTCTCTCTCTACACTGAAT

31,860

PSEN2

GAGCAGTGGTCCCAATCTTTAGGGACCAAGGACTGGTGTGATGGTAGACAGTTTTTCCACAGATAGGGGTTGGGGGATGATTTGGAGCTGAAACTGCTCCACCTCAGGTTCATCAGGCATTAGATTTCTCATGTG
CTCGTACCAGGGGTTAGAAAATCCTGGTCCCTGACCACAGTACCATCTGTCAAAAAGGTGCTATCCCAACCCCTACTAAACCTCGACTTTGACGAGGTGGAGTCCAGTAGTCCGTAATCTAAGAGTACAC

31,995

PSEN2

GAGTGTGCCACTTAGATCCCTGGCGTGACAGTTCAAAATGGGGTTGAGGTCCTATGAGAATCCGATGCCACTGATTTGACAGGAGGCGGAGCTCAGGTGGTAAATGCTCATCTCCACCGCTTACCACCTGCTGT
CTCACACGGTGAATCTAGGAACCGCAGGTGTCAAGTGTACCCCAAGCTCCAGGATACTTAGGCTACGGTGAATAACTGTCTCCGCTCGAGTCCACCATACGAGTAGAGGTGGCGAATGGTGGACGACA

32,130

PSEN2

GCAGCCTGGTTCCTAATAGGCTATAGACTGGTACTGGTCCATGGCCCTGGGGGTTGGGGACCCCTGATTTAGAGGAAGTAAGGGCATGGCTTACCCTGGGCCCTGGGGTGTCTGGGAATGGGAGGATGGAGAGA 32,265
CGTCGGACCAAGGATTATCCGATATCTGACCATGACCAAGTACCAGGACCCGACCCCAACCCCTGGGGACTAAATCTCCTTCATTCCTGTACCGAATGGCACCCGGGACCCCAAGACCCCTTACCCTCCTACCTCTCT
PSEN2 >

AGAGAGGAGGTAGGGAAGACTCCCTTGTCTCCCATTTGGGATTTGGGAGAAAGTCAGGTCTCAGGCTCAACAGTACCTGATCCTGTACCATCTTCCAAAGGGAAGTCAGTGGGGTGGGAGGTAGGCAGGGG 32,400
TCTCTCTCCATCCCTTCTGGAGGGGAACGAGGGGTAACCCCTAAACCCCTCTTTCAGTCCAGAGTCCGAGTTGTCTATGACTAGGACATGGTAGAAGGTTTCCCTTCAAGTACCCTCAACCTTCCATCCGTCCCC
PSEN2 >

TTATCTTCTCTGAGCCACGGCACAAAGACAGAAGTTTCCACCATTCTGAGGGGGCAGGTGGTAGGTCCCAAAGCAGAGAGCCAGCAGTCCCTCTCTGAGGCCCTGCAATGGAATGGGGTGGGGTGTCCACTGAGC 32,535
AATAAGAAAGACTCGGTGCCGTGTTCTGTCTTCAAAGGGTGGTAAGGACTCCCCGTCACCATCCAGGGGTTCTGCTCTCGGTCTGACAGGAGACTCCGGACGTACCTTACCCACCCACAGGTGACTCG
PSEN2 >

CAAGGGTCTGTCAAGTGAAGCTGGGGAGGCTGGGCTGGCTTGAAGCACCTGTTATAACCAAAACAGGAATCAGGTTCCGAGTCTTGCCAGCAAGGGCCACAGCTGCCAGCAGAGATGGACAGCCAGGAGACC 32,670
GTTCCAGACAGTCACTCTGACCCCTCCGACCCGACCGAACGTTCTGTGACAATATTGGTTTGGTCTTTAGTCCAAGGCTCAGAACGGTCTTCCGGATGTGACGGTCTCTACCTGTCTGCTCTG
PSEN2 >

CCAATTGGCCACCCAGAGCCACCTCTCTGCTACCCACCTCCAGTACTCCAGAGCCTACTCGGAGGGGAACAGAACTGAGAGGCTGAACACACACATGGAGAAACAAAGTAGTAAAATATTGGGG 32,805
GGTTAACCGTGGGTCTCGGTGGGAGGAGACGGATGGGGTGGGAGGTCATGAGTCTCGGATGAGCTCCCTTGTCTTTGGACTCTCCGACTTGTGTGTGTACTCTTTGTTTGCATCATTTATAAACCC
PSEN2 >

AATCAGGAAGAAATTTTGTACTATTCTGCAACCTTTCTATAGGCTTGAATATCAAAAATAAATTTTAAAAATTTGTAATAACATTTCTACATAAAAACACTGAGTTTTTTCTTTTCTTTTATTTTTGATTTTTT 32,940
TTAGTCTTCTTAATAAACATGATAAGGACGTTGGAAGATATCCGAACCTTAATAGTTTATTTAAAAATTTTAACTATTGTAAGAGTATGATTTTGTGACTCAAAAAAGAAAGTAAAAACTAAAAAG
PSEN2 >

TTTTGACTCCAGCATGACTTACTCTAACAAATGGGTGGTCTCGATTTGAAATACTTTCTTCTCCAAGCCTTTCATGACACCTGTCTCTGTTGGTTCTGAAAATGTTGGATTTTGTCTCAGCCCTTCTCTCTG 33,075
AAAACTGAGGTCGTAAGTGAAGTGTACTCCACCAGAGCTAAAACCTTATGAAAGAAGAGGTTTCGGAAAGTACTGTGGACAGAGACAAACCAAGACTTTTACAACCTAAAACAGAGTCGGGAACGAAAGAC
PSEN2 >

AAACAGCCAAGGTTAAGAAAACCCCATGCTTTGTGTTCTAGCAGACAGCTTCTGCAAAGAGCCATCTTCCAGAGCACTTAGGCTCTTAGATGTCTCCCTGTTTAAATATGACAAGAGCACACACAGA 33,210
TTTGTGGTTTCAATTTCTTTGGGGGGTACGAAACACAAGATCGTCTGTGAAAGGACGTTTCTCGGTAGAAGGGTCTCGTGAATCCGGAGAATCTACAGAGGGAACAAATAACTGTTCTCGTGTGTGTGCT
PSEN2 >

CCCTCAAATTCCTATTCTTAGTCTTCTAAATGATTAGTGTAGGCTGCTTTTCCCACTGATTAATCGGAATAAAATGCTCATTAAACCAACTTCCCTCCTTTCCCAAGGTCCTAAACTTTCTGAGTCGGCAGA 33,345
GGGAGGTTAAGGGAAGAATCAGAAGATTACTAATCGACTCGACGAAAAGGGGTGACTAATTAGCTTATTTTACGAGTAATTTGGTTGAAGGGAGAAAGGGGTCCAGGATTTGAAAGGACTCAGCCGCTCT
PSEN2 >

CATCCCCTCTGGAGAAGAGGTTGGCCCCAGAGTGAACATCCTCTGATCTACCTGATCCTGCTGCTCCCTCCATTCCACTTCCCCACATCTGTCTTTCTGGTCTGTTTACTCCCCTATTAACAAAAACAAAAACA 33,480
GTAGGGGAGACCTTCTTCCAACCAGGGTCTCAGCTTGTAGGAGACTAGATGGACTAGGACGACGGGAAGGTAAGGTGAAGGGGTGTAGACAAGAAAGACAGCACAAATGAGGGGATAATTTTTTTGTTTTGGT
PSEN2 >

GAAAACGTGTTTGCCTAGACTCTGAGACTCTGGAAGACTTAAAGTCAAGAGGTTCCCCCTATTTGCAATGATCTCCTTCTGCCCCCTCTATCTTGAATAATCCTTTTGAATAAGTCTCTCCTACTAA 33,615
CTTTTGCACAAACGGATCTAGAACTCTGAGACCTTCTAGAATTGTGAGTCTCAAAGGGGGATAAAGCTTACTAGAGGAAAGGACGGGGAAGGATAGGAACGTTATTTAGGAAAACCTATTTACAGAGGGAATGATT
PSEN2 >

ATCCAGTTCCTAAAAATTAATTTTTTATAGACAGTGTCTCGCTTTGTCAACCAGGCTGGAATGCAGTGGCATGATCATAGCTCACTGCAACCTCGAATTCCTGGGCTCAAGCAATCCTCTGCCTCAACTGAGG 33,750
TAGGTCAGGATTTTAATTAAAAAATCTCTGTACAGAGCGAAACAGTGGGTCGACCTTACGTACCGTACTAGTATCGAGTGACGTTGAGACTTAAAGACCCGAGTTCGTTAGGAGGACGGAGTTGACTCC
PSEN2 >

CTACATGCATGCACCATCATGCTTTGCTAATTTTTTAAATTTTTTGTGCGAGACAGGGTCTTGTCTATATTGCCAGGCTGGTCTGGAACCTCTGGCCTTAAGTGATTGTCCAGCCTCAACCTCCCAAAGCGCTGGG 33,885
GATGTACGTACGTGGTAGTACGGAACGATTAACAAAAATTAACAAACAGCTCTGTCCAGACGATATAACGGTCCGACCAAGACTTGAAGACCGAATTCATTAACAGGTCGAGTTGAGGGTTTCGCGACCC
PSEN2 >

ATTCAAGCATGAACCACCGCACCGCTCCAATTTATTTTGTGGCAGTTTCTCTACTCTTCTTCCCTCTCTGCTCATTCTTGGCCATTTTCCAGCTGCTGCTGCTTTTACCCTAGATGCACATTT 34,020
TAAGTTCGTACTTGGTGGCTGGGTGAGGTTAAATAAAACAAACCGTCAAAGGAGGATGAGAAAGAAAGGAGGAGGACGAGTAAGGAACCGGTAAAAGTTCGACGACGAGACGAAAATGGGATCTACGTGTAAA
PSEN2 >

TCAGGGCTCAGTTCTCATTCTCTTCTCTGCTTGGCTCCTCTCTTCCAGTGTGATCCTATCCATTACAGTGGCTTTACAAGCGAGTTGCCTTCCCAAGTATCCCTCTAGCAGATCCTGCTGTGCTCAGGG 34,155
AGTCCCGAGTCAAGAGTAAGGAGAAGAGACGAAAGAGGAGGAGAGGTTACACTAGGATAGGTAAGTGCACCGAAAGTTCGCTCAACGGAAGGGTTCATAGGAGGATCGCTAGGACGACACGAGTCCC
PSEN2 >

TGTCTCTGCATATTTAGACTGCTACCTCCAGGGTCTGGGCACTTAGGAGTGGCCATGTGACTAGCTCTGCCAAGTCTAGTGTGGTCTTCCAGAAAAGCTATTGTTCTCTGGTTTTAAAGGCGG 34,290
ACAGGAGGACGTATAAATCGTGACGAGTGGAGGGTCCAGGACCCGTAATCCTCACCAGTACTGAGTGCAGACGGTTTCAGATCACGAACCCAGAAGGTCCTTTTCGATAACAGAGGACCAAAATTTCCGCC
PSEN2 >

GGAGGGGCGCTCAGCCATAATCTGCCATTTTTCTTGCATGGGACACAGATGTGATGCTTTGAGATGTCACAGCTGCTTAGCGACCACAGGATGAAAGCCGAGGCAAGCGTGTATGACAGAGAAGGAAAC 34,425
CCTCCCAGCGGAGTCGGATTAGACGGTAAAAAGGAACGTAACCTGTGTCTACACTACGAAACTCTACAGTGTGACGAAATCGCTGGTGGTCTACTTTCGGCGTCCGGTTTCGCACATACTGTCTCTCTTTG
PSEN2 >

CACAAGTACTGCCCCAGCCACCCCTGGACTTCTTTCTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTT 34,560
GTGTTTCATCGAGGGGTCGGTGGGACCTGAAGAAAAGACAAACAAACAAACAAACAAACCTTTACCTCAGAGTGAAGACAGTGGTCCGACCTACATACACCGGTAGAACCAGTGCAGTTGGAGACGGAGGA
PSEN2 >

GGGTTCAAGCGATTATCCTGCCCTAGCTCCGAGTGTGAGTGGGACTACAGGACAAAGCCATCATGCCCTGCTAATTTTTGATTTTTAGAGAGATGGGGTTTACCATGTTGGCCAGGCTGGTCTGGAACCTCTG 34,695
CCCAAGTTCGCTAATAGACGGAGTCGGAGGGCTCATCGACCTGATGTCGGTGTTCGGTGTACGGGACGATTAAAAACATAAAAATCTCTACCCCAAGTGGTACAACCCGGTCCGACAGACCTTGAGGAC
PSEN2 >

ACCTCAAGTGATTACCCACCTAGGTCTCCTAAAAGTCTGGGATTACAGGCTTGAGCCACCGTGCCTGGCTGGTCTTTTATGTTATTAATAGAAACCCCTATCTGGTTAAACTATTATAGTTGGGTTTCT
TGGAGTTCACTAAGTGGGTGGATCCAGAGGATTTTACGACCCCTAATGTCCGAACTCGGTGGCAGCGGACCGGACCAGAAGAAAATACAATAATTATCTTTGGGGATAGACCAATTTGATAATATCAACCCAAAGA

34,830

PSEN2

AGTACGTGCAGCCACATGCAAGCCTGACCTACCTTTCACTGACACATCTCTGCTCACTTGGTATCTCTTCCACTTAGGTGCTCAAAACACTGTCTTCTCTCCACCAACACCCCAAATCTGCTCTCCAGTGT
TCATGCACGTGCGGTGACGTTCCGACTGGATGAAAGTCAGTCTGTAGAGACGAGTGAACCATAGAGGAGGTGAATCCACAGAGTTTTGTGACAAGAAGAGAGGGTGGTGTGGGGTTTAGACGAGGAGGTGACA

34,965

PSEN2

TTAACACCCCAAAAAGCTTGCTAAGTAGTTTCTCAGAAATCTTCTTAGAAAGGGAGCTACTGCTGGGCGCAGTGGCTCACGCTGTAATCCAGCACTTTGGGAGGCCAAGGTGGATGGATCACCTGAGGTCT
AATTGTGGGGTTTTTTCGACAGATTTCATCAAAGAGGCTTAAAGAAGATCTTCCCTCGATGACGACCCGCTCACCGAGTGGGACATTAGGTCGTGAAACCTCCGGTCCACCTACCTAGTGGACTCCAG

35,100

PSEN2

AGGAGTTCGAGACCAGCCTGGTCAACATGGTAAAACCTGTCTCTACTAAAAATACAAAAATAGCCGGGCATGGTGGCAGATGCCTGTAATCCAGCTACTAGGGAGGCTGAGGCAGGAGAATCGCTGAACCC
TCCTCAAGCTCTGGTGGACAGTGTACCCTTTGGGACAGAGATGATTTTATGTTTTTAACTGGCCCGTACCACCGTGTACGGACATTAGGGTCGATGATCCCTCCGACTCCGCTCTTAGCGAACTTGGG

35,235

PSEN2

GGGAGGTGGAGGTGACGTGAGTGCAGTACACCATGCACTCCAGCCTGGGTGACAATAATGAACTCCATCTCAAAAAAAAAAAGCTGTATTTATTAAGAAAACATCTTGATGAGAAGCATCAAGTAAA
CCCTCCACCTCCAACGTCACCTGACTCTAGTGTGGTAACTGAGGTGGGACCCACTGTTATCTTTGAGGTAGAGTTTTTTTTTTTTTCGACATAAAATAAATCTTTTGTAGAAGTACTCTCTGATGTTCAATTT

35,370

PSEN2

AGGTGAAGCCCTAAGGGCATGTATCAGAAAATAAATGAATAGATACACTGCTTTGTATTGGAACAAGATTTTGGGCTAGGGGATGAAGGAGAAGAAAGTGTCTTGTAGCTGGATATTGCAATAATTTAC
TCCACTTCGGGATTCGGTACATAGTCTTTAATTTACTTATCTATGTGACGAAACATAACCTTGTTTAAACCTCCGATCCCTACATCTCTCTTTTACAAAAGAACATGACCTATAACGTTATTAAGTG

35,505

PSEN2

ATCTGTTTCCAGGTAATAAGCTGGGAGCAGAATTCATCCCTTTCTCTGTAGCAATGACGCCATTCGTTCTCTATTGCTTCTCTATTATCTTGGGATGCATCTTAAGCAATGGCAACAGAGTCTCCAAAGC
TAGACAAAAGTCCATTTATTCGACCCCTCGTCTTAAGTAGGGAAAAGAGAACATCGTTACGTCGGTAAGCAAGGAGTAACGTAAGGAGTAATAAGAACCTACGTAGAATTCGTTACCGTTGTCTCAAGAGGTTTCG

35,640

PSEN2

TTTATCTTGGTGGGAATAGCTCTCCATCCCTGAGTACAGGTGGTGGTTTTCTCAGACACTGCATCATCACAACCATGAACTTACCCTGCATGGGACGGTGTACTCACCCCTCCCAAAAAGGACA
AAGTAGGAACCCCTTATCGCAGAGGTAGGGACTCAGTGTCCACCACCAAAAGAGTCTGTGACGTAGTAGTGTGGTACTTGAAGTGGGACGTACCTGCCACTAGTGAGTGGGGAGGGTGTCTTCTGT

35,775

PSEN2

TGGTGCCATAGTCACTTACATATTCCTTCTGAGGGTATGTTCTGTGCATCCCCTGCTGGTACCAATTCGCTGCCTTCAATTGGATTAGAAGGAGCAGAAAGCCACTTAGACTGCCTTAGGGAAACACAAGAT
ACCACGGTATCAGTGAATGTATAAGGAAGACTCCCATACAAGACACGTAGGGGTGACGACCATGGTTTAGACGGACGGAAGTAACCTAATCTCTCTGCTTTCCGGTGAATCTGACGGAATCCCTTTGTGTTCTA

35,910

PSEN2

TATTACGCACCTGTTAAATATATTTTCTATTTATAACTCTCGCTTTTAAAAGGGTCTGTTTGGTGGCTTTTCTTCTACTAAGCACAGGGTCTGGTTAAGCAAGGGGAGCTGAATGCTCTGTATGATAATAC
ATAATGCGTGGACAATTTATATAAAAAGATAAATATTGAGAGCGAAAAATTTCCAGGACAAACACCAGAAAGAAAGATGATTCGTTGCCAGACCAATTCGTTCCCTCGACTTACAGAGACATACTATTATG

36,045

PSEN2

TTGGGAGGGATTGGCTCCACTTGATATAGAAGGAAAAGGACCAATAGGAGGCAGGTGGCCACATACTATGATGTAACCTCGCCCAAGAGCCCCAGAACCTTTGATCAGGTCAGTCCAACCTCTGAAATA
AACCCCTCCCTAAACCGGAGGTGAACATATCTTCTTTTCTCGGTTACTCTCGCTCCACCGGTGATGATACTACATTGGAGCGGGGGTCTCGGGGGTCTGGAAACTAGTCCAGTCAAGTTGAGACTTTAT

36,180

PSEN2

GTGACTATTACAGAGAACTCACAGAGTCAGGGATGTGGATTTGATTCTTACTCATCCATCTTGCTCACCATTCCCTGTGCCTTGAATCTGAATATTTGAGTCTTTATTCAGATCTTGGAAATTTTCTCCCTT
CACTGATAAGTGTCTTGGAGTGTCTCAGTCCCTACACCTAACTAAGAATGAGTAGGTAGAACGAGTGGTAAGGGACACGGAACCTTAGACTTATAAACTCAGAATAAGTCTAGAACCCTTAAAAGAGGGGAA

36,315

PSEN2

ATTTATTTCTCTGTTTTCTCTTTTTGAGATTCCCTCAAGACTGGTGTGAGATCTCAGAACTGTTTTTATGTTCTCTTCAAGTGTGCTCCTACTCTCCATCCCTTTGCTTTTTCCCTGCTCTGTATGCTAGG
TAAATAAAGAGACAAAAGAGAAAACCTAAGGGAGTTCTGACCACAGTCTAGAGTCTTGAACAAAATAACAGAGAAGTCAACAAGAGGATGAGAGGTAGGGAAACAGAAAAGGGACGAGACATACGATCC

36,450

PSEN2

ATTTTCTCTAGCCTTTTATGATTTATTTTTGACAATCTGTTTGTTTTTTTTAAATTTCCAAAACCTCATGATCTTACTTGTCTCTCTCATAGCTGTTATTTTATGATGGAGCAATATCTTCTCAGC
TAAAAGAAGATCGGAAAACTCAAATAAAAACCTGTTAGAACAACAAAAAAAATTAAGGTTTTTGTAGTACTAGAATGAACGAGGAGAGATGACAAATAAAAACCTCCTCGTTATAGAAGAGTCTG

36,585

PSEN2

TCTTACTGAGAAACGAGTAATCTTGAAGGTTTTCTATTTGATTAATGTCTCAGTTTTCTTTAGCCTTTTGTTTTATCTGTTTCACTTAGGTCCTTTATTTCTTATATAACTCTTGAATAAGGCTGATGAT
AGAATGACTCTTGTCTTAAAGAACTTCCAAAAGATAAATAATTAACAGAGTCAAAAGAACTCGGAAAAACAATAGACAAGTGAATCCAGGAAAAATAAGAATATATTGAGAACTTTTACCCTACTA

36,720

PSEN2

CCTTGTGACTGTTTACATTTATGAATGAAGAAGTACAGTGGTGTCTGGAGTTACTTTCTTGGCAGATGTCAGTCTGGTGGTGGGTTAAAGTATTTCCAGTAAATATTCATTTCCCTTGCCTGCTGGCCTCA
GGAAACGAACTGACAAGTGAATACTTACTTCTTGTATCTGATCCACAGACCTCAATGAAAGAACCGTCTACAGTCAAGACACCACTTTCATAATAGGTCATTTAAGTAAAGGAAACGGACGACCGGAGT

36,855

PSEN2

TGAGGAAAGCTGATCCAGGCCATGCTCTCACCCCTTCCGGTGTCTGTGGTGCATGGGAACTGCCTGCACTCAGTTCCTGTTCAGCTCTGCTGCTGGGGACCAAATGAAACAGGACATGCCCACT
ACTCCCTTCGGACTAGGGTCCGGTACAGGAGAGTGGGGAGAAGCCACAAGAGACACCACTGACCTTTGACGGAGTGTGAGTCAAGGACAAGTCAAGACGACGACCCCTGGTTTAACTTTGTCTGTACGGGGTCA

36,990

PSEN2

TTAGCCAATGTCAACCTCTACTAATACCATCTCATTAGCTAAGAAAATGATCTTCCGGCCAGGTGCAAGTGGCTCATGCCTGTAATCCAGCACTTTAGAAGGCCGAGGCGGACGGATCACCTGAGCTCAGGA
AATCGGTTACAGTGGGAGATGATTAAGTGAAGTAAAGTCTTTTACATAGAAGGCGGCTCAGCTCACCAGTACGGACATTAGGGTCGTGAAATCTTCCGGCTCCGCTGCTAGTGGACTCGAGTCTCT

37,125

PSEN2

GTTTGAAGACCGCTGGCCAAACATGGTGAACCCCTCTCTACTGAAAAATACAAAAATAGCTGTGGCCAGGCACGGTGGCTCATGCCGATAATCCCAACACTTTGGGAAGCCAAAGTGGTGGATCAACAAGTCA
CAAACCTGCTGGTGGACCGGTTGACCACTTTGGGGTAGAGATGACTTTTATGTTTTTAACTCGACACCGGTCGGTCCACCGAGTACGGCTATTAGGGTTGTGAACCCCTCGGTTCCACCACCTAGTGTCCAGT

37,260

PSEN2

GGAGATTGGGACCATCCGGTCAACATGGTGAACCCCATCTGTACTAAAAATACAAAAATAGCTGGGTGGTGGTGGTCTCTGTAGTCCCAGCTACTCAGGAGGCTGAGGCAGGAGAATTGCTGGAACCTG
CCTTAACCTGGTAGGGCCAGTTGTACCCTTTGGGGTAGACATGATTTTTATGTTTTAATCGACCCACACCCACACGAGACATCAGGGTCGATGAGTCTCCGACTCCGTCTCTAACGACCTGGAC 37,395
PSEN2 >

GGAGGCAGAGGTTGCAGCAAGCTGAGATTGCACCACTGCACTCTGGCAACAGAGCGAGACTCTCAAAAAAAAAAATTAGTCGGGCATGGTGTGGACACCTGTAATCCAGCTACTTGGGAACTGAGGCAGG
CCTCGTCTCCAACGTCGTTGACTTAACTGGTGAAGTGAAGGACCGTTGTCTCGCTGTGAGAGTTTTTTTTTTTAAATCAGCCGTAACCACTACCTGTGGACATTAGGGTCGATGAACCTTCTGACTCCGTCC 37,530
PSEN2 >

AAAATCACTTGAACCCAGGGAGTGGAGTTGCAGTGAAGCAGAGATGGCGCCACTGCACTCAGGCCAGGGAGACAACATGAGACTCTGTCTCAAAAAAAGAAAATGTATCTTTCTAAAGTATGTGTGTGTGCG
TTTTAGTGAACCTGGTCCCTCACTCCAACGTCACCTGTCTACCAGGTCGCTGTGAGTGGTCCCTCTGTGTACTCTGAGACAGAGTTTTTTTTCTTTTACATAGAAGATTTTCATACACACACACACGC 37,665
PSEN2 >

TGCGTGCCTGTGTGTGATAGTCCCTTATAGTGACAGTTTCTAGCAAAAACAAAAGAGAAAACATAATAAAATGTGTGGAAATTTGGTGTCTAGAAAGCTAAGTTATATTTCTGCTATCAATAGCCATAACCTCTGG
ACGCACGCACACACATATCAGGGAATCACTGTCAAAGGATCGTTTTGTTTTCTTTGTATATTTTACACACCTTAAACCACAGATCTTTCGATTCAATATAAGACGATAGTTATCGGTATTGGTAGACC 37,800
PSEN2 >

TCAGTTCCTTCTGTGGCCTGTTTCTCATATTTATAAGTGAAGGTTTAAACACATTCATGATCCCAAAC TAGGGATTGGAGAGTAGTAAAGATTATCCAAATAGTCTTATAATAGTTTTAAGACTAT
AGTCAAGTGAAGACACCCGGACAAGAGTATAAATATTTCACTTCCCAAATTTTGTGTAGTACTAAGGGTTTGATCCCTAAACCTCTCATCATTCTAATAGGTTTATCAGAATATTTACAAAATTTCTCGATA 37,935
PSEN2 >

GACAAGGCCACTCAAGCTATTAGCTGATTACTGCAGGGAATGGAGGAGTGGAGCAGAATATGGTCCGGGCAAGAACACAGAACTCTGGCATGTGGAAGGTGGGCCCTGGAGCACCTGTGAGCTCCCGCTC
CTGTCCGGTGAGTTCGATAATCGACTAATGACGTCCTTACCTCTCACCTCGCTTATACACAGCCCGGTTTCTGTGTCTGAGAACCTACACCTTCCACCCGGGACCTGTGGACGACTCGAGGGCGGAG 38,070
PSEN2 >

AGCCCCAGCTATAGGACCTTACGCCACTGTCCAGGCTCAGCACCATGTGCTTTGAGGGTAGGGCAGAGGGGCTTAGGGGCTCAGCCAGCAGTACCACAGATGTAATCTCCAGGGATATGCTCTGAGCTTG
TCGGGGTCGATATCCTGGAAGTCGGCTGACAGGGTCCGAGTCGTGGTACACGGAACCTCCATCCCGTCTCCCGAATCCCCGAGTCGGTCTCAGTGGTGTCTACATTAGAAGTCCCTATACGAGACTCGAAC 38,205
PSEN2 >

GGAGGAAATTCCTTTCATGCCGGGAACGTATGACCCACTTTGGTGTATCCAGGCAATGTGGAGATACAGAAATGAAAGACTCAGTTCTCAGGGGCTTGAAGTCTGATTGCTGAAATAATTTTTAGTT
CCTCCTTTAAGTGAAGAAGTACGGCCCTTGCATACTGGGTGAACACATAAAGTCCGTTACACCTCTATGTCTTTACTTTTTCTGAGTCAAGAGTTCCCGAACTTCAGACTAAGCGACTTTATAAAAATCAA 38,340
PSEN2 >

TCCAGAACCACAAGACAGACCCAGAGGGCTGTGTTGGCAAAAACAATGGCAGAGTGGAGCTGGCCAGAGGCATCTGTGCTGGCGACTCCAAGAGAGCACCCGACTCCAGATGGCGACACTGCAGGATGGAGCG
AGGCTTTGGTGTCTGTCTGGTTCCTCCGACACACACCGTTTGTGTTACCGTCTCACCTCGACCGGCTCCGTAAGACACGACCCGCTGAGGTTCTCTCGTGGCTGAGGCTACCCTGTGACGTCCTACCTCGC 38,475
PSEN2 >

GGGCATGCCTGCAGACAGGTGTGAGGTGCAAAAACAGAAACACCCGGACGCTTCTGGCTGCAAGGACCTGAAGCCTTAGGGGGTGATATTGTTAACTGAGGTAGGCCCTGTGTTAATAGGGTCTCCACCTGAC
CCGTACGAGCTCTGTCCACAGTCCAGCTTTTTGTCTTGTGGCCTGCAAGACCGACGTTCTGGACTTCGGAATCCCGCACTATAACCAATTTGACTCCATCCGGAACACAATTTCCAGAGGTGGACTG 38,610
PSEN2 >

TTTGTAGTTATTTTCTCACTGACAAGAAGTGGAGTGGGTGGCTGTGGGTTGATTTATCCAGCAGTTCAATCCATCTTTGATTTTTTTTTTCCATTCTTTCCATTTTCTCTGCGATTCTTTCTCTC
AAACAGTCAAATAAAGAGTGAAGTGTCTTCCACCTCATCCACCCGAGACCCAACTAAATAGGTCGTCAAGTTAAGGTAGAACTAAAAAAGGTAAGAAAGGTAAGAAAGGAGAGCCGTAAGAAAGGAGAG 38,745
PSEN2 >

CCGCAATTCCTCACTTACATAAAGCCAAGTGCAGGGGAGAGAGAGAGAGACTTCTCTGTGTCATTTTTTAAAGGTCAATGAAAACATTCTTAGGAGCCCTGGGCAGATTTCTCCCTGAATCTCATTGGCC
GGCGTAAGAGTGAATGATTTTGGTTCACGTCCTCCCTCTCTCTCTGAGAAGGACACAGTAAAAAATTCAGTTACTTTTGGTAAGAAATCCTCGGGGACCCGCTTAAAGAGGACTTAGAGTAACCGG 38,880
PSEN2 >

AGAAGTGTGTACATCCCCATGCTAAGCCAATCACTGGCAATGGGTGTGGGATAGTTGTGGCCAGCCTGGACCCATCAGAATGTAACCCCTGAGTCTCAGGGGGAGAGTGGATGCCAGAATGAAATCAGAGTTT
TCTTGACACAGTGTAGGGGTACGGATTCCGTTAGTACCCTTACCCACACCTATCAACCCGTCGGACTGGGTAGTCTTACATTGGGACTCAGAGTTCCCCCTCTCACCTACGGTCTTACTTTAGTCTCAAG 39,015
PSEN2 >

CATCCACTTTCCATTAGAAAGAAAAGTGGAGAGGAGCAGAGAAGGCTCCAGACAGACAACCTAACAGTGTGATACAATAACTTTCTTATGTTTCTGTAACCTAAGGTCATTTTGTCTATTGCTAGCATAT
GTAGGTGAAAGGTAATCTTTCTTTTACCTCTCTCTGCTCTTCCGAGGTCGTCTGTTGATGTGCACAAACTATGTTATTGAAAGAAATACAAAGACATTGAATTCAGGTAAACAGATAACGATCGTATA 39,150
PSEN2 >

ATAAGCTTAATGCCTGCTAGATTCTGTTGTTTACACTGTCTCTTCTCCCTGGAGTAGTACCAGGGTGAAGGAGCCTGTGGCCTCTGTAATATCAGGACATAGAGGATAGGGTTGCCGGGGGACATGTGGTC
TATTGCAATACGGACGATCAAGACAACAATGTGACAGGAGAAGAGGACCTCATCATGGCTCCCACTCCCTCGGACACCCGAGACATTATAGTCTGTATCTCTATCCCAACGGCCCGGCTGACACCG 39,285
PSEN2 >

CCTTGATTGCCAGTCTTCTATTTTGGTTTTCTTTCTTTTAAAGAAAACCTCTTTTATTTATAGATAAGGTCTCATTCTCTCACCCAGGGTGAAGTGCAGTGGCGTGTCTCGCCCTACTGCAGCCTTGGCCTCC
GGAACTAACGGTCAAAAGATAAAACCAAAGAAAAGAAATTTCTTTTGAAGAAAATAAAATATCTATTCCAGAGTAAAGAGTGGGTCCCACTCACGTACCCTACTAGAGCCGGATGACGTCCGAAACCGAGG 39,420
PSEN2 >

CAGGCTCAAGCAATCTTCCACTTACCTCTTGAAGTGTGGAAGTACAGGTGCACACCACCGTCCAGGCTAATTTTTATTTTTATTTTTGTAAGACGGGCTTGTCTGATTGCCAGGCTAGATTTGA
GTCCGAGTTCGTTAGGAAGGTGGAATCGGAGAACTCATCGACCTGTATGTCCACGTGTGGTGGCAGGTCGATTAATAAATAAATAAATAAATCTCTGCCCCAGAACGACATAACGGGTCGATCTAAACT 39,555
PSEN2 >

ACTCCTGGCCTGAAGTAACTCTCCACCTTGGCCTCCAAAGTTCTGGGACTACAGGTATGAGCCACCTGCCCAGCCCTAAAAAATTTGTTGATTGTGGTAAACACATAGCATAAAATTTACCATTGTAACCAT
TGAGGACCGGACTTCATTAGGAGGGTGAACCGGAGGTTTCAAGACCTGATGTCATACTCGGTGGTACGGGCTGGGATTTTTTAACTAACACCTTGTGTATCGTATTTTAAATGGTAACTTTGTTA 39,690
PSEN2 >

TTTTAAGTGTACAGATAATAGTGTAAAGTATATTCATATTTGTTGTGAAACAGATCTCCAGAACTTTTTCTCTGTAATATGAAATCTACACCCATTGAACAACCTTCCATTCTCCCTGCAACCCCCACAAGC
AAAATTCACATGTCTATTACAAATTCATATAAGTATAACAACCTTTGTCTAGAGGCTTGAAGAAAGTGAACATTATACTTTAGGATGTGGGTAACCTGTTGAAGGGTAAGAGGGGACGTTGGGGGTGTTTCG 39,825
PSEN2 >

C CCTTGGCAACCACAATTTCTATTTTCTCTTTCTATTTAGTTTGACTACTCTAGATACCTCATGTAAGTGAATCATACAGTATTTGTCCTTTTGTGACTGGCCCTATTTCACTTAGCATAATGCATAATGTCCTCAA
GGACCGTTGGTGTAAAGATAAAAGAGAAAGATAATCAAACCTGATGAGATCTATGGAGTACATTTACCTTTAGTATGTCATAAACAGAAAAACACTGACCGGGATAAAGTGAATCGTATTACGTATTACAGGAGTT

39,960

PSEN2

G CTTTACGCATGTTGTAGCATGTGACAGGACTTCCTTCGTTTTAAGGCGGAACAATATCCATTGTATGTTTATACCATATTTTGTTCATCTAATCCTCCATCAGTGGACATTTGGTTGCTTGTACCTCTTG
CGAAGTGCGTACAACATCGTACACTGTCCTGAAGGAAGCAAAAATTCGCGCTTGTATAAGGTAAACATACAAATATGGTATAAAAACAGTAGATTAGGAGGTAGTCACTGTAAACCAACGAACATGGAGAACC

40,095

PSEN2

C TATTGTGGATAATGCTGTTCTAAACATGGGTGAGCTAATATCTTTGAGATCCTGCTTTCAATTTAGATGATGAGATTTCTGGGTCATAAGATTTAATTTTTGAGAAACCACCATGCTGTTTCTTTACAGTGG
GATAACACCTATTACGACAAGATTTGTACCCACTCGATTATAGAACTCTAGGACGAAAGTTAAATCTACATACTCTAAAGACCCAGTATTTCAAATTA AAAA ACTCTTTGGTGGTACGACAAGAAATGTCACC

40,230

PSEN2

C TACGTCATCTTACCTTCCCCCAACAGTGTACAAGGATTCGAATTTCCCCACATCCTTGCCAAACATTTGTTATTTTCTGGTTTTTTTGTAGTAGGGCAATCCTAATAGGTGTGAGGTGGTATCTCATTTGGTT
GATGAGTAGAATGGAAGGGGGTTGTACATGTTCTAAGGTTAAAGGGGTGTAGGAACGGTTGTAACAATAAAAGACCAAAAAA ACTATCACCGTTAGGATTATCCCACTCCACATAGAGTAACACCAA

40,365

PSEN2

T CATGAGGTTTAAAGTTGAGCATCTTTTCATATGCTTTTAGACCACTCGTATATATCTTCTTTGGAGAAATGTGGTGGCAATCTTGGTTCACTGCAACTTCCACTCCTGAGTTCAGCAATCTCCAGTCTCAG
AGTACTCAAATTTCAACTCGTAGAAAAGTATACGAAAATCTGGTAAAGCATATATAGAAGAAACCTCTTTACACACCAGCTTAGAACCAAGTGACGTTGAAGGTGGAGGACTCAAGGTCGTTAAGAGGTGAGAGTC

40,500

PSEN2

C CTTCTCGAGTAGCTGGGATTACAGGCATGTGCCACATGCTGGCCATCTTCGCTCTTGAGCACCTGTGCATGGTAGGTCAGGACCCCTGACAGTCAGGGTCCCAGGACGAGGGGGACATCCCTTCTATTA
GGAGAGCTCATCGACCTAATGTCCGTACACGGTGTACGACCGGTAGAAGCGAGAACTCGTGGACACAGTACCATCCAGTCTCTGGGACTGTCACTCCAGGGTCCGCTCTCCCGCTGTAGGGAAGATAAT

40,635

PSEN2

T CTTGGATTCTACCACCCCTTAGAGGGAGACTACAGACCCCGGACTCTTCCAGAGACCCATTGCCAGCACTTCATTCTGTTGATCTCTCTTGCACCTTCTGCCTCCCCAGCCTGGAAGAGTTTTAAACAT
AGAACCTAAGATGGTGGGGAAATCTCCCTCGATGCTG6GGGCTGAGAAGGGTCTCTGGGTAAACGGTCTGGAAGTAAAGCAACTAGAGGAGAACGTGAAGACGGAGGGGTCGGACCTTTCTCAAATTTGTA

40,770

PSEN2

C TTGTCCCTGGCAAGGAAACCTGGCTCAGCCAGTATTCTTACCTAATTTTTCTGCCTCGTGTCCAAAGTGCAGCTGTATTAAATGTATTAAATAAAAGGAAAACTGGCCAGAAGCGGTGGCTCATGCCAG
GAACAGGGACCGTTCCTTTGGGACCGAGTCGGTCAATAAAGATGGATTAAAAGACGGAGCACAGGTTTTCAGCTGCACATAATTTACATAATTTATTTTCTTTTGAACCCGGTCTCGCCACCGAGTACCGGTC

40,905

PSEN2

C ACTTTAGGAGGCCAAGGTAGGTGGATCATCTGAGGTGAGGATTCGAGACCCAGCCTGGCCAAACATGGTGAATGCGTCTGACTAAAAATACAAAAATAGCCAGGTGTGGTGGTGTGCACCTGTAATCCAG
GTGAAATCCTCCGGTTCATCCACCTAGTAGACTCAAGTCTCAAGCTCTGGTGGACCGGTTGTACCCTTACGGCACAGATGATTTTATGTTTTAATCGGTCACACCACCACAGTGGACATTAGGGTC

41,040

PSEN2

C TACTCAGGAGGCTGAGGCTGGAGAATTTGCTTGAACCCGGGAGGCAGAGGTTGCAAGTGAAGTGAAGTATGATGCACTGCACTCCAGCCTGGTAAACAGATGGAGACTCCGTCTCAAAAAAGAAAAAAGAAAA
GATGAGTCTCCGACTCCGACCTCTAACGAACCTGGGCGCTCCGTCTCAACGTCACCTGACTCTAGTACGGTGAAGTGAAGTGGACCCATTGTCTACCTCTGAGGCAAGTTTTTTTTCTTTTTTCTTTTT

41,175

PSEN2

A GTTGGAGGGCTTTACCATTTCTGCTGGGAAAGTCTGGAGCAAAGGCCACTGGCAGTGCCTCAGCTTGAACATAGTGAAGGTGGTGGGAGGGCAGGAATACAGTGTCTTCCACAGGTTGCAGGTGGGCATC
TCAACCTCCGAAATGGTAAAGACGACCCCTTCAGACCTCGTTTTCCGGTGACCGTCAAGGTTGAGTGAACCTGTATCACTCCACCACCCCTCCGCTCTTATGTCAAGGAAGTGGTCCAAAGTCCACCCTGATG

41,310

PSEN2

G ACCTCTTGGTGGTCTGGCGCAGCCTCCCTGCCTGGGGCGCTGCTGCTTGGGCTCGTCACTGCCAAAGGATCAGATGAGCTGCTGGAGGAGGACCCCTGAGCCAGAGTTAGTTCTTAGCTTAAACTCTACAGCCGT
CTGGAGAACCACCAGACCGCTCGGAGGGACGGACCCCGGACAGCGGAACCCGAGCAGTGAACGGTTCCTAGTCTACTCGACGACCTCCTCTGGGACTCGGTCTCAATCAAGAAATCGAATTTGAGATGTCGGCA

41,445

PSEN2

G CTTCTCAAAGTGTGGTCTGGGGGCCATGAAGTCAAAACTATTTTGAATAAAACTACATTACCTTACCATTCTCCTTCTATTACAAGTGTACACAGGAGTTGTCCAGAAGCTGCATGATACGATATGTGATA
CGAAGAGTTTACACCAGGACCCCGGTTACTTCAAGTTTTGATAAAACATATTTTGTGTAATGGAATGGTAAAGAGGAAGATAATGTTACATGTTCTCAACAGGCTTCGACGTACTATGCTATACACTAT

41,580

PSEN2

T CACAAGGGATTGACTCCAAAAGCAGGTCGGAGAATCCAGCTGCTTCTTCTTCTTTTTTTTTTTTTTGTGGAGACAGAGTTTGTCTATTGCCAGGCTGGAGTGCAGTGGTGGCATCTCAGCTCAC
AGTGTCCCTTAAGTGAAGTTTTCTGTCAGCCTCTTAGGTCGACAGAAAGAAAGAAAGAAAGAAAAA AAAAAA AACCTCTGTCTCAAACGAGATAACGGGTCGACCTCACGTCACCACGCTAGAGTGCAGTG

41,715

PSEN2

T GCAACTTCTGCCTCTGGGTTCAAGCAATTTCTCCTGCCTCAGCCACCAGAGTAGCTGGAATTACAGGCACGCGCCACCACACCTGGCTAATTGTGAGTTTTAGTAGAGATGGGGTTTACCATTGTTGGTCAAG
ACGTTGAAGACGGAGGACCAAGTTCTGTTAAGAGGACGGAGTGGTGGTCTCATGACCTTAATGTCGCTGCGCGGTTGGTGGACCGGATTAACACATCAAAATCATCTTACCCCAAAGTGGTACACCAGTCC

41,850

PSEN2

C TGGTCTTGAACCTCTGACTTCAAGTGTACTGCCAGCCTTGGCCTCCAAAGTGGTGGGATTACCGATGTGAGCCACCGTCCCGACCTCACCTCCTGGGTTTTCAAGCAATTTCTCTGCTCAGCCTCCCAAAT
GACCAAGCTTGAAGACTGAAGTCCACTAGACGGTCGGAACCGGAGGGTTTCAACACCTAATGGCTACACTCGGTGGCACGGGCTGGAGTGGAGGACCCAAAAGTCTTAAAGAGACGGAGTGGAGGGTTTCA

41,985

PSEN2

A GCTAGGATTACAGGTCGCCGCCACCATGCTGGCTAATTTTTGTGTTTTAATAGAGACGGGGTTTTGCCATGTTGGCCAGGCTGGTCTTGAACCTTGCCTCAGGTGATCCACCACCTGGGCTCCCAAAG
TCGATCCTAATGTCACGGGCGGTGGTACGGACCGATTAAAACACAAAAATATCTCTGCCCAAAACGGTAAACACGGTCCGACCAAGAACTTGAAGACTGGAGTCCACTAGGTGGTGGACCCGGAGGGTTTTT

42,120

PSEN2

T GCTGGGATTACAGGCGTGAGCCACTGTGCCTGGCCGAATCCAGCTCTCTCTATTAAGATATTTCTTTTATTTCTAGTAAAGAGAAATGCAAAAATGTAACAAATGCCAGTCTTTCATGAAAGGTTTTGGTTTTG
ACGACCTAATGTCGCACTCGGTGACACGGACCGGCTTAGGTCGAGAGAAGATAATCTATAAGAAAAA AAGATCATTTCTTAAAGTTTTTACATTTGTTTACGGTCAGAAAGTACTTTCCAAAACCAAC

42,255

PSEN2

T AAAAATATAGCTATTTTCAAAAAACTTATTTATGTTAAAATGAAATGTTATTTTTGTTATTTTTTAAAAAGTTGATACATAAATAAAATTTCTCAGTTGTAATTTCTCAACAGGATAGAGCTAACCCACATAAC
ATTTTTATATCGATAAAAGTTTTTGAATAAATAAATTTTACTTTTACAAATAAAAAAATAAAAAATTTTTCAACTATGATTTATTTTTAAGAGTCAACATTAAGAGTTGCTCTATCTCGATTGGGTGATTTG

42,390

PSEN2

AAAAGGTCCTTGCAGTCCTCAGTAAGTTTTACAAGTTTAAAGGGTCTGAGACCAAACGTTTGAGGACCACTGTCCCTCCGAAAGGCTGCGGCTTTCTTCTGGTGGCTTTACACTTCTGCTGCTCCAGCCA
TTTTCCAGAAACGTCAGGAGTCATTCAAATGTTCAAATTTCCCCAGGACTCTGGTTTTGCAAACCTCTGGTGACAGGGAGGCTTCCGACGCCGAAAGAACACCAGAAATGTGAAGACGACAGGAAGTCGGT 42,525
PSEN2 >

CGTCCCTTTTCGCTCTCCAGGACTCCTCATTGCTTGAATTTCTCTGTAGCTCCACTCCAGGTTGCCACATGAGGGCAGCCGATTCCGCCCTGAGCCCTTCGCGGGGCTCAAGCACAGGTGTTACCA
GCAGGGAAAGCGCAGAGGTCCTGAGGAGGTAACGGAACTTAAAGAGGACAATCGAGGTGAGGTCACACGGTGTACTCCGCTGGCTAAGCGGGGACTCGGGAACGCCCCCGGAGTTCGTGTCCAAAGTGGT 42,660
PSEN2 >

GGTCAGCCTTCAGCATCCAGTTCTACCGAGTCCCTGGCTGGTGGTACTGGAGAAGCAAAGACGATAAACACAGGTCCTTGTCTGTGGGAGGCTCAGGCCCTCTGTTCTCTCCCTCCAGGGGCCAGGAGAGG
CCAGTCGGAAGTCGTAAGTCAAGGATGGCTCAGGACCGACACCATGACCTCTTCTGTTCTGCTATTGTTGCCAGAAACAAGACACCTCCGAGTCCGGAGGACAAGAGAGGGTCCCGGCTCTCTCTCC 42,795
PSEN2 >

CCCCAGCCAGAGCCTGAGCACATCATAGGGTGCACATGTTTGGTGAATGAACATTATCTCTGTGTTGTCAGAGCTGAGCATAGAAGTCCATCTTCTAGATCTGAACCTTAACTGGAAGGGTTAGGCCCTCTT
GGGGTCGGTCTCGGACTCGTGTAGTATCCCAACTGTACAAACCACTTACTTGTAAAGAGACACAACACGCTCTCGACTCGTATCTTGAAGTGAAGATCTAGGACTTGAATTTGACCTTCCCAATCCGGAAGAA 42,930
PSEN2 >

GCCATTGCCTGCAGGGAGAGGTGAGCACCTAGAACCTTACTGTTGGGAGCACGTGTTCTCATGCAGTAAAGTGAAGGGGAGAGGAGGCACCTTTTCTCTAGCTTGGATTAAAGTGAAGTAAAGGGCA
CGGTAAACGGACGTCCTCTCCACTCGTGGGACTTGTGAATGACAAGCCCTCGTGACCAAGAGTACGCTATTTCACTCTCCCTCTCTCCGTTGAAAAGAGATCAGAACCTAAATTCACCTTCAATTTCCCGT 43,065
PSEN2 >

TATGTGAAGTTTTTCCAAAACAAAGCCCTCATTATTTTTATTTTTATCAGAAACAGTCATGGACATCTCTAGCAATGAAAGCAAAGCCCTGCAGTCATTTAATAGACATACTCTACATCCTGTTAGC
ATACACTTCAAAAAGGTTTTGATTCGGGAGTAAATAAAAAATAAAAAATAGTCTTGTTCAGTACCTGTAGAGATCGTTACTTTCGTTTCGGGACGTCAGTAAATTTGATCTGTATGAGAGATGTAGGACAATCG 43,200
PSEN2 >

CAGCGGCTCTACGACTTCTCCCAACATCTTAAAGCAACCTGGCATGAAGGAGCTGGCTCAAATGCTGGTCAAGTGAAGGGGCAATAAGCTCTGAAGTCAACAACAAGGGTTCAAATCCGACCTCCCGGCTCC
GTCGCCGAGGATGCTGAAGAGGGTTGTTAGAATTTGTTGACCCGTACTTCTCGACCGAGTTTACGACCACTCACTTCCCGTATTCGAGACTTCAGTGTGTTGTTCCCAAGTTTGAAGCTGGGAGGGCCGAGG 43,335
PSEN2 >

TGGTCTGTGCTCTCTCCCTTACTGTAATGCCAAGTCACTTTGGTTTTACCCCTGCAAAATATTCATCATTGTTGAGTCAACACAATGATACATAAAAAATCAGCAGTCTCTGATAAAGTGTGGCTACTG
ACCAGACACGAGAGAGGGGAAATGACATTACGGTTGAAGTGAACCAAAAAATGGGGACGTTTAAAGTAGTAAACACAACCTCAGTTGTGTTACTATGATTTTTTAGTCGTAGAGACTATTTACACCGGATGAC 43,470
PSEN2 >

GTTAAGAGGAGCAGGGCTTTGAAAGGATAGCCAAGGTAACACTCCTGGTCCACCATGTTAGCTGTGTAACCTCGGGCAAGCTGCTTAACTCTCTGAGTCTCAATTTCTCAACTGTAGAAAGCAGACATAA
CAATTCCTCTGTCGCCGAACTTTCTATCGGTTCCATTGTGAGGACCAAGGTTGACACAATCGACACATGGAGCCGTTGACGAATTTGAGAGACTCAGAGTTAAAGAGTTGACATCTTTCGCTGTATT 43,605
PSEN2 >

TATTACAGGGTTGCTGAGAGAATAATGACATTAGGTTTCTAAAGTCTTAATTCAGTACCTGGCTCATAGTAAAGTCTCAATAAACACCAAGTTATAAACATCACTGCATTTGAAATTCACAGCTTTTTCAAAG
ATAATGTCACCAAGCTCTCTTATTACTGTAATCCAAAGATTTACGAATTAAGTCAATGGACCGAGTATCATTACAGGATTTTGTGGTCAATATTGTAGTACGTAACCTTAAAGTCTGAAAAAGTTTTC 43,740
PSEN2 >

TTAGAGTCAGAAAGAAATTCAGAAGTCTGTAATCAATGTTTTCAAAGTGTGTTCAAACACTCACTTCCCTCAAGATGCTCCATGAAAAGGGTCTGTGGCCAAATATGATGGTTGTATATTAAGCCTC
AATCTCAGTCTTTCTTAAAGTCTCAGGACATAAGTTACAAAAGGTTTACACAAGTTTTGTAGTGAAGGGAGTCTACGAGGACTTTTTCCCAAGACACCGGTTTATACCTCAACATATAATTTCCGGAG 43,875
PSEN2 >

AGAGAAGCCACAGAGTAAAGAAACCTGTTGAACCTTGATTACTCCAACCTTTATCAAATGGATTTGACTGTAGAACCCTTTCACACATCACTTTTTAACTTCCAGGTTGCTGGTAGACAGACTCAGTCATTA
TCTCTCGGTGCTCATTTCTTGGACAACCTGAAACTAATGAGGTTGGAATAAGTTTACCTAACTGACATCTGGGAGAAGTGTAGTGAATAATGAAGTCCAACGACCATCTGCTCGAGTCAAGTAA 44,010
PSEN2 >

CCATCATTAAAGATCATACAATACTGGATAACATTTATGGAGGGTTGCTCTATGCCAGGCACTGTGATATGCACAAGGCATGATTTATCTCACTTTATTCATAACAACACTAAGAAGTAGTCTATCATCTT
GGTAGTAATTTCTAGTATTGTTTATGACCTATTGTAATACCTCCAAACGAGATACGGTCCGTGACACTATACGTTTCCGTACATAAATAGAGTGAATAAGTATTGTTGTATTCTCATCACGATAGTAGAA 44,145
PSEN2 >

TTACGGATGAAAAATAGGCTTAGAAGACTAAGTAACTGGCCAAGGTCACATACCAAGAAATGTCAGCATGCAAACTCAGGTTGGCTGGCTCTGGAATTCAGCCTTCCACCTCCCTGTATGGTTCCGCAG
AATGCCTACTTTTTTATCCGAATCTTCTGATTCAATGAACCGGTTCCAGTGTATGGTTCTTATAGCAGTCTGACGTTTGAAGTCCAACCGGACGAGACTTAAAGTCGGAACGGTGGAGGGACATCAAAAAGCGCTC 44,280
PSEN2 >

CCCAGTGCATTACCCCTGACTGTTGGACAGTCTTCTTGTATTGAGCTGAAATCCAATTCAGTTCCAATCACACTGTTTCTCCAGGGTGCACATAAATATATGGTGAATGTATTATTTAGTTTCAATTTCTAA
GGGTGACGTAATGGGACTGACAACCTGTGAGGAAGGACATAACTCGACTTTAGGTTAAGGTCAGGTTAGTGTGACAAGAGGTTCCACGCTGATTTATATACCCTTTACATAAATAAATCAAAGTTAAGATT 44,415
PSEN2 >

ATATCCTTTATTTGTCATTGTTTCTCGAATTTGATTTATTTCTGTTCCCTTTTCTCTTGACTTGTCAAGTACTTACGATTTTCTTTGGACTAAAAAACTCAACACAATTTCTGCTGCTTTCTTATAGTATGATA
TATAGGAAATAACAGTAACAAAGGCTTACATAAATAAGACAAGGGAAAAGAGAACTGAACGAGTTCATGAAGTCGTAAGTAAACCTGATTTTTTGAAGTGTGTTAAGACAGACGAAAGAAATATCATACTAT 44,550
PSEN2 >

TTTTCATTTTTAGGAAGTACACATTATCAAACCCATAAGAACTAAATTTTTTAAAGAGGGGAAAAAGACAAGGTCAGGAGGCTGAGGTTGGGAGGATCGCTTGAAGCCAGGAGTTCCAGACCGCTGGGCAA
AAAAGTAAAAATCCTTCACTGTGAATGTTTTGGGTATTTGATTTAAAAAATCTCCCTCTTTCTGTTCCAGTCTCCGACTCCACCTCTTAGCGAACTCGGGTCTCAAGCTCTGGTCGGACCGCTT 44,685
PSEN2 >

CAGAGTGAGACCTGTCTACAAAACACCACCACCAACAAAAAATAAGTTGGGCATGGTGGCACATGCCTGTGGCACATGCCTACTCAGGAGCCTGAGGTTGGGAGGAGTCACTTGAAGCCAAAGAGGTCG
GTCTCACTCTGGGACAGAGATGTTTGGTGGTGGTGGTGGTTTTTTTTTAAATCAACCGTACCACCGTGTACGGACACCGTGTACGGATGAGTCTCGGACTCCACCTCTCAGTGAACCTGGGTTCTCCAGC 44,820
PSEN2 >

AGGCTATTAGTGAGCCATGATCACACCCTGACTCCAGCCTGGGCAACAGAGCAAGACCCCATCAAAAAAGAAAGTTTTAGATGTATACAATAACTAAGTATTTTTCCCTCGAGGAATTTGATAACAAGTTG
TCCGATAATCACTCGGACTAGTGTGGTGGTGGTGGTGGTTTTTTTTTAAATCAACCGTACCACCGTGTACGGACACCGTGTACGGATGAGTCTCGGACTCCACCTCTCAGTGAACCTGGGTTCTCCAGC 44,955
PSEN2 >

TCTTTTATAGCTCTAGTAGTATTGCTGTAAAGCTATAAAAGTACCTCTGGCTTTTGCCTAAGTGTAGTGTCTGCTCTCTCTGCTCTCCATAGCAGCACATTGTTAACTGTTTCTTACCAGTAGCACTA
AGAAATATCGAGATCATCATAACGACATTTTCGATATTTTCATGGAGACCGAAAACGGGTTTCACATCATCACAGACAGAGAGAGACAGAGAGGATCGTCTGTAAACAATTGACAAAGAATGGTCATCGTGAT 45,090
PSEN2 >

CTTTCATTACTTTTATGACTCATTGTCTCCCTATTTAGTAAACAAAGTATACAGCCACTAAAAGCAAGTAGCTGGGCTATTACAGCAGCTTCTCCCCATACACTGTGGTAGTTCCTAACTACAATCTGTTTG
GAAAGTAATGAAATACTGAGTAAACAGAGGGAATAATCATTGTTTTCATATGTCGGTGATTTCCTGTTTCATCGACCCGATAAGTGTCTGCGAAGAGGGGGTATGTGACACCATCAAGGATTGATGTTAGACAAAC 45,225
PSEN2 >

TGTCCAATAGCAGTTCCTAGTGATGCAAAATAGTACTTCCATTTAAACAATTTTCATTATAGCCAATTTCTAGTTCTGAAAATACCACTGGAAGAAAAACACTTGAGTTCTCAGTATGGTTTGACCAATATAGCTTG
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PSEN2 >

GAACTATCACTTTCCTTGTCTGAACATTATACTTCACTAGTTTCAGCTCGAGATCTCATTATTTGGGTAACCTGCAATTACCTATACCTGCTTGTGGAGTTTGTCTCCAACCAATTAATTTCCCTTACAATTTCT
CTTGATAGTGAAGGAACAAGACTTGTAAATGAAGTATCAAGTCAAGTCTAGAGTAATAAACCCATTGACGTAATGGGATATGGACGAACACCTCAACAGAGGTTGTTAATTTAAAGGGGATGTTAAGA 45,495
PSEN2 >

GCTATACATCAGCAGTGTATTTGGAGCCACGTGAAAGGAACTATACTTACATCTGTTCCAGTTCATCTGTTTAGGCTGGCTCGTTGTCAGCCTGTGACAATCATCTGGAGTGGCGATCATTCTCCTTC
CGATATGTAGTCTGCAACATAAAACCTCGGGTGCACCTTTCCTTTGATATGAATGTAGACAAGGTCAGTGTAGACAAATCCAGACCAGCAACAAGTGGACACTGTTAGTAGACCTCACCCTAGTAAAGGAAAG 45,630
PSEN2 >

AGCCCATGTCTCTGTGAAACTGATAAACCTGCCTTAGAGCAGCACTTTCCAACAGAATGTTCTGTGAACATGGAATAATACAGATCTATGCTGTCCAATATGGTAGCCACTAGCCACATGCAAGTTTGGAGCA
TCGGTACAGGAGACACTTTGACTATTTGGACGGGATCTGCTGCGTGAAGGTTGCTTACAAGACACTGTACCTTTATATGGTCTAGATACAGACAGGTTATACCATCGGTGATCGGTGACGTCACAAAACCTGCT 45,765
PSEN2 >

CTTGAAATTAGGCTCATGCAACTGGGAACCTAATTTTAAATGCTTTAATTTTAAATTAATTTAAATAATCCCATATGGCTAATAGATATCATACTGGACAGTGTCTGAGCTAGATGTTTACCTGAAATGCAG
GAACCTTAAATCCGAGTACGTTGACCTTGAATTTAAATTTAAACAGAAATTTAAATTTAATTTAAATTTATTAGGGTATACCGATTATCTATAGTATGACCTGTACAGCATCGAGATCTACAATGGACTTTACGTC 45,900
PSEN2 >

GTAATAATTTAAGTAGAACAGGACCTGCTTCTGTCCTGGAGTCCAACTCTGGACTGGGGATGGCCATCAAGGATTATCAACCACCTGTGTTTATAAATACTCGGTGCACAATTTTATCCACCAGCGTATA
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PSEN2 >

TGAGTATCAGTGAAGGACTTTGTCAAATGCCTTGTAAGAAAGCAAGATGGCCCTAGAAATATGTGGCACTGCCCTGCTCTACCAGCCTCATGATTTTTTTTTCTAGAAAATAGGGTGTGTTTTTTTTCTATTTGT
ACTCATAGTCACTTCTGAAACAGTTTACGGAACATTTTCGTTCTACCGGATCTTTATACACCGTGACGGGACAGAGTGGTGGAGTACTAAAAAAAAGGATCTTTTATCCACACAAAAAAAAGATAAACA 46,170
PSEN2 >

AGAAGTCATACATACCTACTGTGGCAAATGCAGGAAAGTACCTAGAGGAAATTAACAATGACCAAAATTTCTGCCATCTTGAGATAACTACTGTTAAACATTTTCAGCATTTTTCTTTTTCAGCTTTTTTCTGTGTTG
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PSEN2 >

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CATAAAAAGTGTAGTACTTTAGTATGGAGAGACAATGGAGGACAAAAAATTTAATTTTTTAAATTTTTTAAATTTAGCTGTTTTATATATACAAATAGTACATGTTGTACGACAATGTGACACCTTACC 46,440
PSEN2 >

CTAAATCAAGTTAATAAGCACACACATTACTTTCATATATATCATTTTTTGTAGTAAAGGACACTTAAACCTACTCAGCAATTTTCAGTACAATAAATGTTATTAACTGTAGTTACATAAACCAAAAAATAAA
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PSEN2 >

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PSEN2 >

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PSEN2 >

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PSEN2 >

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PSEN2 >

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PSEN2 >

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PSEN2 >

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GCTAAACCGAGTGACACCGGAGACGGAGGCGCAAGTTGCTAAGAGGACGGAGTGGAGGGTATGGTCAAGTTGAAAAGTCTAAGGTGCACATTCATTCTAGTACGTCACAGACAGAAAGACACGGACCGAAT 47,520
PSEN2 >

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PSEN2

47,655

CCTAAGTTGATTCATTTTTGGCCATTGTGAATAATGCTGTAATGAATGTGGGAGTGCCGATATCTCTGGACATACTGATTTCATTTCTTTGTATGTTATATATTATAGTAGCGGAATTGCTGGATCATATG
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PSEN2

47,790

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CATCAGGACAAAAATTAAGACGAAAAATATAAAGAAATATAAAATTTTAAAAATCTTAAAAATATTCATAAAGAATGTAATAATTTATGAGAACTTTTGTAGAACTTCCGACATAGTTACCAATTTTAA

PSEN2

47,925

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ACGTATCGTTAAGGGGACAACGACATGAAAGTCGAACATAGATTCAAAAACGATAATGTTTATTTGACACGACTTATAGAAGAACATGTTTTATTGAAGGACTTCCACATAATAATTTTGTATCTTACTTGT

PSEN2

48,060

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AAACAACCTCGATTGAGAAGACTTCTCCTTTATTCCAATAGGACCTGGTGTACAGCCGAGAATCACCGGTTAAGAAAGGGAAGACTTATAAGTTCCGGTGGTAAAGTAGGAGAGAAAAATCGGTGAGTAGGGTAT

PSEN2

48,195

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PSEN2

48,330

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PSEN2

48,465

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PSEN2

48,600

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PSEN2

48,735

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PSEN2

48,870

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PSEN2

49,005

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PSEN2

49,140

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PSEN2

49,275

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PSEN2

49,410

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PSEN2

49,545

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PSEN2

49,680

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PSEN2

49,815

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ATGATGATAGTATTTTATTTTATTTTCTTAACTTATCTATCTTAAACCGGGAAATTTGTGACTCCGGTCTCTTAATGTGTCACACGGAGTCCCTACAAAACGAGACAAGAGTCCAATAGACCGAGGAT

PSEN2

49,950

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PSEN2

50,085

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52,785

PSEN2

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52,920

PSEN2

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53,055

PSEN2

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53,190

PSEN2

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53,325

PSEN2

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53,460

PSEN2

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53,595

PSEN2

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53,730

PSEN2

TCACCTTTGAAGTGGTCTGAGTGTTCCTTTTCAGGATCCAGGGCCATTATCTCAGAGCTCTGCCCTTCAGTTAAATTCAGTTTCCCATTGCAAGTCACTCGCTGTCCCAAGGACTTTGGATAAGAAGTAGC
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53,865

PSEN2

TTGGGATATCCATGTGGATGCAAGAAATCTTTTATTTATTTATTTATTTAGAGACAGTGTCTCACTCTGATGGAGTGCAGTGGTATGATCCCAGTCACTGTAACCTCTGCCTCCTGGGTTCAAGTATTCTCTG
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54,000

PSEN2

CCTCAGCTCCTAAGTAACTGGGACTATAGGTGCCCGCCAGCATAACCCAGCTGATTTTTATTTGTAGTAGAGATGGGCTGGCTCATCTGCCAGGCTGGTCTCAAACCTCTGACCTCAGGTGATCTCCACC
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54,135

PSEN2

TCAGCCTGCCAAAGTGTGAGATTACAAGTGTGAGCCACTGCGCCTGGGCTGGATGCAAGAAATCTATCCTCTGTTCTCCTGGGATCCACCGCACCCAGAAAGTGGGAGATTTTCTTGTGGCTGTCCCC
AGTGGACGGTTTACGACTCTAATGTTACACTCGGTGACGCGGACCCGGACCTACGCTTAAAGGATAGGAGACAAGGAGGACCCTAGGTGGCTGGGCTTTTACCCTCAAAGGAAACGACCCGACAGGGG

54,270

PSEN2

CAACCCCTATGGGCTTCCCTTTGTGCACCTTTCTGCCCACACATACCCCTGGGGTCTGTTGGGTTGGAGGACCTCTCTGAAATGCTTGGCATCTTTCTGTTGCAAGGAAAGAAAAATAAACCCAAA
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54,405

PSEN2

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54,540

PSEN2

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54,675

PSEN2

TGCTGCTGTTTTGGACACATGGTACTCTCTTCTGAGATGGAGTCTCGCTTTGTCGCCAGGCTGGAGTGCAGTGGCAGCATCTGGCTCACTGCAACCTCTGCTTCCAGGTTCAAGTATTCTTCTACCTC
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54,810

PSEN2

AGTCTCCGAGTACTGGAAGTGCAGGCGATGCCACCACCCAGCTAATTTTTGATTTTTAGTAGAGATGGGTTTACCATATTGGCCAGGATGGTCTTGAACCTCTGACCTTGTGATCCGCTGCCCTCG
TCAGAGGGCTCATGACCTTACGTCGCGTACGGTGGTGGGTCGATTAATAACATAAAATCATCTCTACCCTCAAAGTGGTATAACCGGCTTACCAGAACTTGAGGACTGGAACACTAGGCGGACGGAGCC

54,945

PSEN2

CCTCCAAAGTGTGGGATTACAGGTGTGAGCCACTACGCCCGCCAGTACTCTTTTCTAAACTCCCTTCAAAATTTGCTCTCTCACCTGCTTCTGTATACTACAAGGAAAGTGGGTAACAGATTGTC
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55,080

PSEN2

GGAATTAAGCTCGGCTCATGGTTGACGCTTCTCGCTGTTGCTGCTTCTAGTTTAAAACTTGGGGTCCAAATGTGGAAATTACTCCAAACTTGGTGAATTAAGAAACAAGTATCCAGTACTGCTGTA
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

55,215

PSEN2

Feature		Location	Size		Type
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/note	= gene ENSG00000288674 Protein coding				
		1 ..117,362	117,362 bp	■ →	prim_transcript
/note	= primary transcript ENST00000366779 Nonsense mediated decay				
		1 ..113,672	113,672 bp	■ →	prim_transcript
/note	= primary transcript ENST00000676884 Nonsense mediated decay				
PSEN2		1 .. 57,543	57,543 bp	■ →	gene
/note	= gene ENSG00000143801 Protein coding				
PSEN2-211		1 .. 26,494	26,494 bp	■ →	prim_transcript
/note	= primary transcript ENST00000524196				
PSEN2-217		267 .. 25,903	25,637 bp	■ →	prim_transcript
/note	= primary transcript ENST00000676888 Nonsense mediated decay				
PSEN2-235		334 .. 33,449	33,116 bp	■ →	prim_transcript
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PSEN2-224		378 .. 51,972	51,595 bp	■ →	prim_transcript
/note	= primary transcript ENST00000677599				
PSEN2-228		378 .. 49,171	48,794 bp	■ →	prim_transcript
/note	= primary transcript ENST00000678233 Nonsense mediated decay				
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/note	= primary transcript ENST00000678820 Nonsense mediated decay				
PSEN2-219		378 .. 47,872	47,495 bp	■ →	prim_transcript
/note	= primary transcript ENST00000676945				
PSEN2-230		378 .. 33,461	33,084 bp	■ →	prim_transcript
/note	= primary transcript ENST00000678655 Nonsense mediated decay				
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/note	= primary transcript ENST00000679098 Nonsense mediated decay				
PSEN2-218		378 .. 25,903	25,526 bp	■ →	prim_transcript
/note	= primary transcript ENST00000676907 Nonsense mediated decay				
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/note	= primary transcript ENST00000677529 Retained intron				
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/note	= primary transcript ENST00000677748 Retained intron				
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/note	= primary transcript ENST00000678320				
PSEN2-231		378 .. 25,903	25,526 bp	■ →	prim_transcript
/note	= primary transcript ENST00000678706 Nonsense mediated decay				
PSEN2-221		385 .. 25,905	25,521 bp	■ →	prim_transcript
/note	= primary transcript ENST00000677414				
PSEN2-233		389 .. 28,263	27,875 bp	■ →	prim_transcript
/note	= primary transcript ENST00000678784 Nonsense mediated decay				
PSEN2-216		389 .. 21,077	20,689 bp	■ →	prim_transcript
/note	= primary transcript ENST00000676840 Nonsense mediated decay				
PSEN2-236		417 .. 25,905	25,489 bp	■ →	prim_transcript
/note	= primary transcript ENST00000679088				
PSEN2-215		421 .. 47,406	46,986 bp	■ →	prim_transcript
/note	= primary transcript ENST00000676747 Nonsense mediated decay				
PSEN2-227		429 .. 25,903	25,475 bp	■ →	prim_transcript
/note	= primary transcript ENST00000678021 Nonsense mediated decay				
PSEN2-202		433 .. 25,915	25,483 bp	■ →	prim_transcript
/note	= primary transcript ENST00000366783				
PSEN2-226		433 .. 25,903	25,471 bp	■ →	prim_transcript
/note	= primary transcript ENST00000677880				
PSEN2-209		433 .. 15,385	14,953 bp	■ →	prim_transcript
/note	= primary transcript ENST00000495488				
PSEN2-203		437 .. 25,620	25,184 bp	■ →	prim_transcript
/note	= primary transcript ENST00000422240				
PSEN2-223		444 .. 25,903	25,460 bp	■ →	prim_transcript
/note	= primary transcript ENST00000677596 Nonsense mediated decay				

Feature	Location	Size	Type
PSEN2-213	584 .. 25,903	25,320 bp	prim_transcript
/note	= primary transcript ENST00000676467 Nonsense mediated decay		
PSEN2-210	680 .. 5369	4690 bp	prim_transcript
/note	= primary transcript ENST00000521431 Retained intron		
PSEN2-232	871 .. 25,903	25,033 bp	prim_transcript
/note	= primary transcript ENST00000678776 Nonsense mediated decay		
PSEN2-204	1081 .. 21,161	20,081 bp	prim_transcript
/note	= primary transcript ENST00000460775		
PSEN2-201	1085 .. 25,915	24,831 bp	prim_transcript
/note	= primary transcript ENST00000366782		
PSEN2-212	10,472 .. 25,905	15,434 bp	prim_transcript
/note	= primary transcript ENST00000626989		
PSEN2-224	11,725 .. 48,668	36,944 bp	CDS
▶ 11 segments = 1416 bp			
/note	= coding sequence ENSP00000503673		
/translation	= MLTFMADSEEEVCDERTSLMSAESPTPRSCQEGRQPEDGENTAQW,,RSQENEEDGEEEDPRRYVCSGVPGRPPGLEEELTLKYGAKHVIMLFVPTLCMIVV VVATIKSVRFYTEKNGQL,,IYTPFTEDTPSGQRLNLSVNL TLIMISIVVMTIFLVVLYKYRCYK,,FIHGWLIMSSMLLFLFTYIYLG,,EVLKTYNVAMDYPTLLTWNFGAVGMVCIHWKGPLVLQQA YLIMISALMALVFIKYLPEWSA W WILGAISVY,,DLVAVLCPKGPLRMLVETAQER NEPIFPALIS,,SAMVWTVGMAKLDPSSQALQLPYDPEM,,EEDSYDSFGEPSYPEVFEPPLTGYPGEELEEEEE,,RGV KLGLDGFIFYSVLVGKAAATGSGDWNTTLCFVAAILI,,MASHSCCPGWSA MVRFGSLWLPFGFK RFSGSRKAPDSRWRHRCRMRGMPADRCQ,,RRGLAVLRLDLNSWPEVILPPWPKVGLGL,,MASHSCCPGWSA MVRFGSLWLPFGFKRFSCLSLPYQFNFRFHV*		
PSEN2-219	11,725 .. 47,481	35,757 bp	CDS
▶ 12 segments = 1584 bp			
/note	= coding sequence ENSP00000504433		
/translation	= MLTFMADSEEEVCDERTSLMSAESPTPRSCQEGRQPEDGENTAQW,,RSQENEEDGEEEDPRRYVCSGVPGRPPGLEEELTLKYGAKHVIMLFVPTLCMIVV VVATIKSVRFYTEKNGQL,,IYTPFTEDTPSGQRLNLSVNL TLIMISIVVMTIFLVVLYKYRCYK,,FIHGWLIMSSMLLFLFTYIYLG,,EVLKTYNVAMDYPTLLTWNFGAVGMVCIHWKGPLVLQQA YLIMISALMALVFIKYLPEWSA W WILGAISVY,,DLVAVLCPKGPLRMLVETAQER NEPIFPALIS,,SAMVWTVGMAKLDPSSQALQLPYDPEM,,EEDSYDSFGEPSYPEVFEPPLTGYPGEELEEEEE,,RGV KLGLDGFIFYSVLVGKAAATGSGDWNTTLCFVAAILI,,FPEPQDRPKRAVLAKQMAEWSWPEASV RGSKRAPDSRWRHRCRMRGMPADRCQ,,RRGLAVLRLDLNSWPEVILPPWPKVGLGL,,MASHSCCPGWSA MVRFGSLWLPFGFKRFSCLSLPYQFNFRFHV* 527 amino acids = 59.6 kDa		
PSEN2-201	11,725 .. 25,396	13,672 bp	CDS
▶ 10 segments = 1347 bp			
/note	= coding sequence ENSP0000035746		
/translation	= MLTFMADSEEEVCDERTSLMSAESPTPRSCQEGRQPEDGENTAQW,,RSQENEEDGEEEDPRRYVCSGVPGRPPGLEEELTLKYGAKHVIMLFVPTLCMIVV VVATIKSVRFYTEKNGQL,,IYTPFTEDTPSGQRLNLSVNL TLIMISIVVMTIFLVVLYKYRCYK,,FIHGWLIMSSMLLFLFTYIYLG,,EVLKTYNVAMDYPTLLTWNFGAVGMVCIHWKGPLVLQQA YLIMISALMALVFIKYLPEWSA W WILGAISVY,,DLVAVLCPKGPLRMLVETAQER NEPIFPALIS,,SAMVWTVGMAKLDPSSQALQLPYDPEM,,EEDSYDSFGEPSYPEVFEPPLTGYPGEELEEEEE,,RGV KLGLDGFIFYSVLVGKAAATGSGDWNTTLCFVAAILI,,GLCLTLLLLAVFKKALPALPISITFGLIFV \$X@N@WRP@M@T@LA@SQ@Y@D@		
PSEN2-202	11,725 .. 25,396	13,672 bp	CDS
▶ 10 segments = 1347 bp			
/note	= coding sequence ENSP0000035747		
/translation	= MLTFMADSEEEVCDERTSLMSAESPTPRSCQEGRQPEDGENTAQW,,RSQENEEDGEEEDPRRYVCSGVPGRPPGLEEELTLKYGAKHVIMLFVPTLCMIVV VVATIKSVRFYTEKNGQL,,IYTPFTEDTPSGQRLNLSVNL TLIMISIVVMTIFLVVLYKYRCYK,,FIHGWLIMSSMLLFLFTYIYLG,,EVLKTYNVAMDYPTLLTWNFGAVGMVCIHWKGPLVLQQA YLIMISALMALVFIKYLPEWSA W WILGAISVY,,DLVAVLCPKGPLRMLVETAQER NEPIFPALIS,,SAMVWTVGMAKLDPSSQALQLPYDPEM,,EEDSYDSFGEPSYPEVFEPPLTGYPGEELEEEEE,,RGV KLGLDGFIFYSVLVGKAAATGSGDWNTTLCFVAAILI,,GLCLTLLLLAVFKKALPALPISITFGLIFV \$X@N@WRP@M@T@LA@SQ@Y@D@		
PSEN2-203	11,725 .. 25,396	13,672 bp	CDS
▶ 10 segments = 1344 bp			
/note	= coding sequence ENSP00000403737		
/translation	= MLTFMADSEEEVCDERTSLMSAESPTPRSCQEGRQPEDGENTAQW,,RSQENEEDGEEEDPRRYVCSGVPGRPPGLEEELTLKYGAKHVIMLFVPTLCMIVV VVATIKSVRFYTEKNGQL,,IYTPFTEDTPSGQRLNLSVNL TLIMISIVVMTIFLVVLYKYRCYK,,FIHGWLIMSSMLLFLFTYIYLG,,EVLKTYNVAMDYPTLLTWNFGAVGMVCIHWKGPLVLQQA YLIMISALMALVFIKYLPEWSA W WILGAISVY,,DLVAVLCPKGPLRMLVETAQER NEPIFPALIS,,SAMVWTVGMAKLDPSSQALQLPYDPEM,,EEDSYDSFGEPSYPEVFEPPLTGYPGEELEEEEE,,RGV KLGLDGFIFYSVLVGKAAATGSGDWNTTLCFVAAILI,,GLCLTLLLLAVFKKALPALPISITFGLIFV \$X@N@WRP@M@T@LA@SQ@Y@D@		
PSEN2-211	11,725 .. 25,396	13,672 bp	CDS
▶ 10 segments = 1347 bp			
/note	= coding sequence ENSP00000429036		
/translation	= MLTFMADSEEEVCDERTSLMSAESPTPRSCQEGRQPEDGENTAQW,,RSQENEEDGEEEDPRRYVCSGVPGRPPGLEEELTLKYGAKHVIMLFVPTLCMIVV VVATIKSVRFYTEKNGQL,,IYTPFTEDTPSGQRLNLSVNL TLIMISIVVMTIFLVVLYKYRCYK,,FIHGWLIMSSMLLFLFTYIYLG,,EVLKTYNVAMDYPTLLTWNFGAVGMVCIHWKGPLVLQQA YLIMISALMALVFIKYLPEWSA W WILGAISVY,,DLVAVLCPKGPLRMLVETAQER NEPIFPALIS,,SAMVWTVGMAKLDPSSQALQLPYDPEM,,EEDSYDSFGEPSYPEVFEPPLTGYPGEELEEEEE,,RGV KLGLDGFIFYSVLVGKAAATGSGDWNTTLCFVAAILI,,GLCLTLLLLAVFKKALPALPISITFGLIFV \$X@N@WRP@M@T@LA@SQ@Y@D@		
PSEN2-212	11,725 .. 25,396	13,672 bp	CDS
▶ 10 segments = 1347 bp			
/note	= coding sequence ENSP00000486498		
/translation	= MLTFMADSEEEVCDERTSLMSAESPTPRSCQEGRQPEDGENTAQW,,RSQENEEDGEEEDPRRYVCSGVPGRPPGLEEELTLKYGAKHVIMLFVPTLCMIVV VVATIKSVRFYTEKNGQL,,IYTPFTEDTPSGQRLNLSVNL TLIMISIVVMTIFLVVLYKYRCYK,,FIHGWLIMSSMLLFLFTYIYLG,,EVLKTYNVAMDYPTLLTWNFGAVGMVCIHWKGPLVLQQA YLIMISALMALVFIKYLPEWSA W WILGAISVY,,DLVAVLCPKGPLRMLVETAQER NEPIFPALIS,,SAMVWTVGMAKLDPSSQALQLPYDPEM,,EEDSYDSFGEPSYPEVFEPPLTGYPGEELEEEEE,,RGV KLGLDGFIFYSVLVGKAAATGSGDWNTTLCFVAAILI,,GLCLTLLLLAVFKKALPALPISITFGLIFV \$X@N@WRP@M@T@LA@SQ@Y@D@		
PSEN2-221	11,725 .. 25,396	13,672 bp	CDS
▶ 10 segments = 1347 bp			
/note	= coding sequence ENSP00000503116		
/translation	= MLTFMADSEEEVCDERTSLMSAESPTPRSCQEGRQPEDGENTAQW,,RSQENEEDGEEEDPRRYVCSGVPGRPPGLEEELTLKYGAKHVIMLFVPTLCMIVV VVATIKSVRFYTEKNGQL,,IYTPFTEDTPSGQRLNLSVNL TLIMISIVVMTIFLVVLYKYRCYK,,FIHGWLIMSSMLLFLFTYIYLG,,EVLKTYNVAMDYPTLLTWNFGAVGMVCIHWKGPLVLQQA YLIMISALMALVFIKYLPEWSA W WILGAISVY,,DLVAVLCPKGPLRMLVETAQER NEPIFPALIS,,SAMVWTVGMAKLDPSSQALQLPYDPEM,,EEDSYDSFGEPSYPEVFEPPLTGYPGEELEEEEE,,RGV KLGLDGFIFYSVLVGKAAATGSGDWNTTLCFVAAILI,,GLCLTLLLLAVFKKALPALPISITFGLIFV \$X@N@WRP@M@T@LA@SQ@Y@D@		
PSEN2-229	11,725 .. 25,396	13,672 bp	CDS
▶ 9 segments = 1248 bp			
/note	= coding sequence ENSP00000503680		
/translation	= MLTFMADSEEEVCDERTSLMSAESPTPRSCQEGRQPEDGENTAQW,,RSQENEEDGEEEDPRRYVCSGVPGRPPGLEEELTLKYGAKHVIMLFVPTLCMIVV VVATIKSVRFYTEKNGQL,,IYTPFTEDTPSGQRLNLSVNL TLIMISIVVMTIFLVVLYKYRCYK,,FIHGWLIMSSMLLFLFTYIYLG,,EVLKTYNVAMDYPTLLTWNFGAVGMVCIHWKGPLVLQQA YLIMISALMALVFIKYLPEWSA W WILGAISVY,,AAMVWTVGMAKLDPSSQALQL LPYDPEM,,EEDSYDSFGEPSYPEVFEPPLTGYPGEELEEEEE,,RGV KLGLDGFIFYSVLVGKAAATGSGDWNTTLCFVAAILI,,GLCLTLLLLAVFKKALPALPISITFGLIFVSTDNLRPFMDT LASHQLYI* 415 amino acids = 46.5 kDa		
PSEN2-236	11,725 .. 25,396	13,672 bp	CDS
▶ 10 segments = 1347 bp			
/note	= coding sequence ENSP00000504727		
/translation	= MLTFMADSEEEVCDERTSLMSAESPTPRSCQEGRQPEDGENTAQW,,RSQENEEDGEEEDPRRYVCSGVPGRPPGLEEELTLKYGAKHVIMLFVPTLCMIVV VVATIKSVRFYTEKNGQL,,IYTPFTEDTPSGQRLNLSVNL TLIMISIVVMTIFLVVLYKYRCYK,,FIHGWLIMSSMLLFLFTYIYLG,,EVLKTYNVAMDYPTLLTWNFGAVGMVCIHWKGPLVLQQA YLIMISALMALVFIKYLPEWSA W WILGAISVY,,DLVAVLCPKGPLRMLVETAQER NEPIFPALIS,,SAMVWTVGMAKLDPSSQALQLPYDPEM,,EEDSYDSFGEPSYPEVFEPPLTGYPGEELEEEEE,,RGV KLGLDGFIFYSVLVGKAAATGSGDWNTTLCFVAAILI,,GLCLTLLLLAVFKKALPALPISITFGLIFV \$X@N@WRP@M@T@LA@SQ@Y@D@		

Feature	Location	Size	Type
PSEN2-209	11,725 .. 15,385	3661 bp	CDS
▶ 3 segments = 387 bp			
/note	= coding sequence ENSP00000429682		
/translation	= MLTFMADSEEEVCDERTSLMSAESPTPRSCQEGRQGPEDGENTAQW,,RSQENEEDGEEPDRYVCSGVPGRPPGLEEELTKYGAKHVIMLFVPTLCMIVVVATIKSVRFYTEKNGQL,,IYTPFTEDTP 129 amino acids = 14.5 kDa		
PSEN2-220	12,820 .. 25,903	13,084 bp	prim_transcript
/note	= primary transcript ENST00000677065 Retained intron		
PSEN2-206	14,440 .. 25,508	11,069 bp	prim_transcript
/note	= primary transcript ENST00000472139		
Donor Template WT -> SNV	15,380 .. 15,460	81 bp	misc_feature
PAM	15,411 .. 15,413	3 bp	misc_feature
Protospacer Sequence	15,414 .. 15,433	20 bp	misc_feature
SNV	15,420 .. 15,420	1 bp	misc_feature
/note	= WT=A SNV=T		
PSEN2-206	15,431 .. 25,396	9966 bp	CDS
▶ 8 segments = 915 bp			
/note	= coding sequence ENSP00000427806		
/translation	= MISVIVVMTIFLVVLYKYRCYK,,FIHGWLIMSSMLLFLFTYIYLG,,EVLKTYNVAMDYPTLLTWNFGAVGMVCIHWKGPLVLQQAAYLIMISALMALVFIKYLPEWSAWVILGAISVY,,DLVAVLCPKGPLRMLVETAQERNEP IFPALIYS,,SAMVWTVGMAKLDPSSQGAQLPYDPEM,,EEDSYDSFGEPSYPEVFEPLTGYPGEELEEEEEE,,RGV KLGDFIFYSVLVGKAAATGSGDWNTTLCFVAILI,,GLCLTLLLLAVFKKALPALPISITFGLIFYFSTD 134 amino acids = 15.0 kDa		
PSEN2-226	15,431 .. 25,396	9966 bp	CDS
▶ 8 segments = 912 bp			
/note	= coding sequence ENSP00000503121		
/translation	= MISVIVVMTIFLVVLYKYRCYK,,FIHGWLIMSSMLLFLFTYIYLG,,EVLKTYNVAMDYPTLLTWNFGAVGMVCIHWKGPLVLQQAAYLIMISALMALVFIKYLPEWSAWVILGAISVY,,DLVAVLCPKGPLRMLVETAQERNEP IFPALIYS,,SAMVWTVGMAKLDPSSQGAQLPYDPEM,,EDSYDSFGEPSYPEVFEPLTGYPGEELEEEEEE,,RGV KLGDFIFYSVLVGKAAATGSGDWNTTLCFVAILI,,GLCLTLLLLAVFKKALPALPISITFGLIFYFSTD 134 amino acids = 15.0 kDa		
PSEN2-204	17,929 .. 21,161	3233 bp	CDS
▶ 4 segments = 434 bp			
/note	= coding sequence ENSP00000427912		
/translation	= MSSLMLLFLFTYIYLG,,EVLKTYNVAMDYPTLLTWNFGAVGMVCIHWKGPLVLQQAAYLIMISALMALVFIKYLPEWSAWVILGAISVY,,DLVAVLCPKGPLRMLVETAQERNEP IFPALIYS,,SAMVWTVGMAKLDPSSQGAQLPYDPEM,,EEDSYDSFGEPSYPEVFEPLTGYPGEELEEEEEE,,RGV KLGDFIFYSVLVGKAAATGSGDWNTTLCFVAILI,,GLCLTLLLLAVFKKALPALPISITFGLIFYFSTD 134 amino acids = 16.1 kDa		
PSEN2-205	19,568 .. 25,903	6336 bp	prim_transcript
/note	= primary transcript ENST00000471728 Retained intron		
PSEN2-208	20,383 .. 21,637	1255 bp	prim_transcript
/note	= primary transcript ENST00000487450		
PSEN2-207	26,705 .. 33,616	6912 bp	prim_transcript
/note	= primary transcript ENST00000485677		
PSEN2-214	29,182 .. 57,543	28,362 bp	prim_transcript
/note	= primary transcript ENST00000676616		

Primer	Length		Binding Sites		Tm	Date Added
✓ PCR Forward	20-mer		15,171 .. 15,190	→	59°C	Jun 15, 2022
/sequence	=	TGCCAGGAAATGAGCTGGAG 55% GC / 6231.1 Da				
✓ Sanger Sequencing Primer	20-mer		15,171 .. 15,190	→	59°C	Jun 15, 2022
/sequence	=	TGCCAGGAAATGAGCTGGAG 55% GC / 6231.1 Da				
✓ Donor Template WT -> SNV	81-mer		15,380 .. 15,460	→	79°C	Jun 15, 2022
/sequence	=	ACACCCTCGGTGGGCCAGCGCCTCCTCAACTCCGTGCTGATCACCCATCATGATCAGCGTCATCGTGGTTATGACCATC 58% GC / 24,688.0 Da				
✓ gRNA Protospacer	20-mer		15,414 .. 15,433	←	55°C	Jun 15, 2022
/sequence	=	CATGATGAGGGTGTTCAGCA 50% GC / 6197.1 Da				
✓ PCR Reverse	20-mer		15,564 .. 15,583	←	59°C	Jun 15, 2022
/sequence	=	CTAAAGCGGCTGTTTCACG 55% GC / 6133.0 Da				