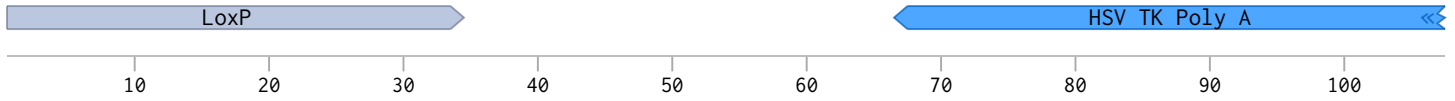
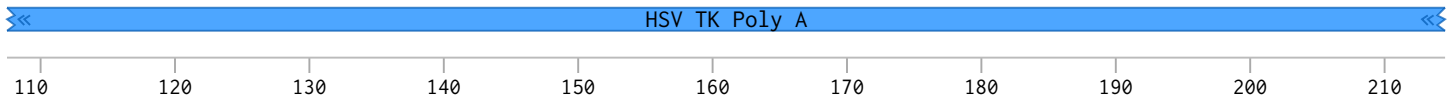


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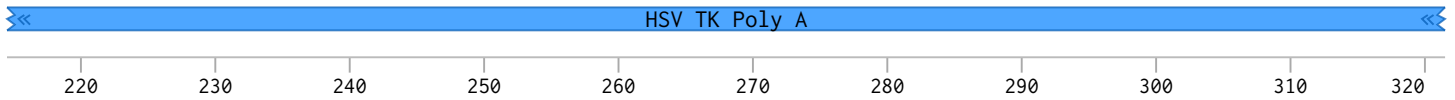
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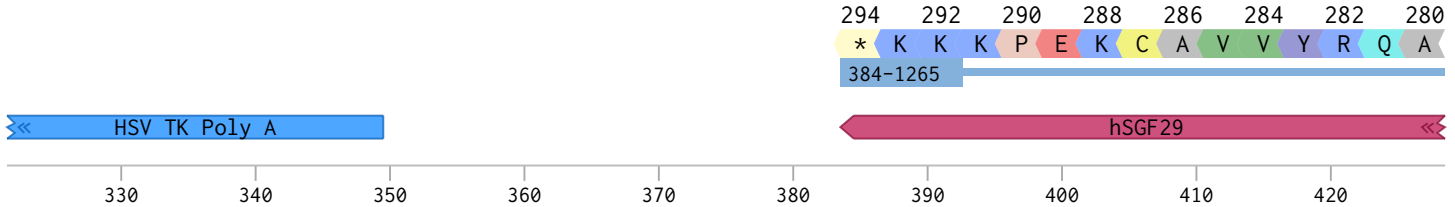
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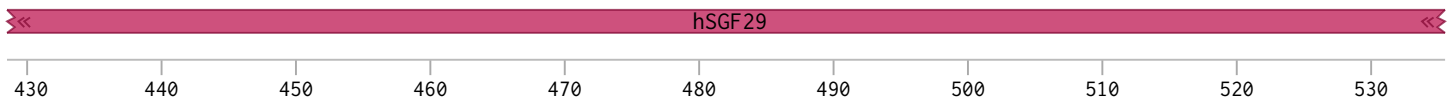
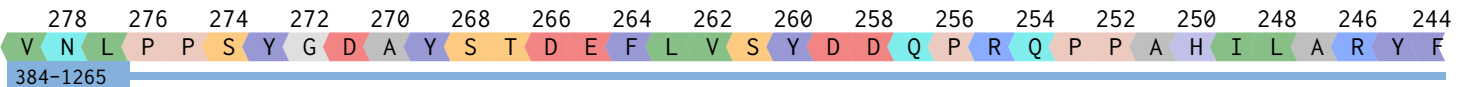
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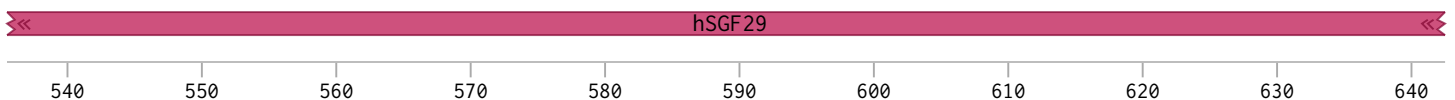
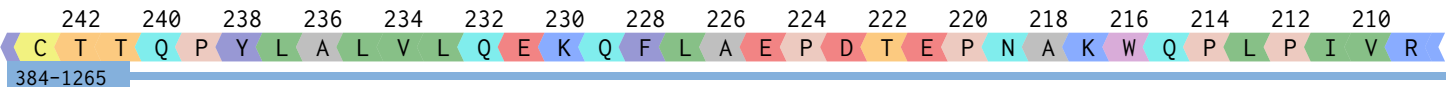
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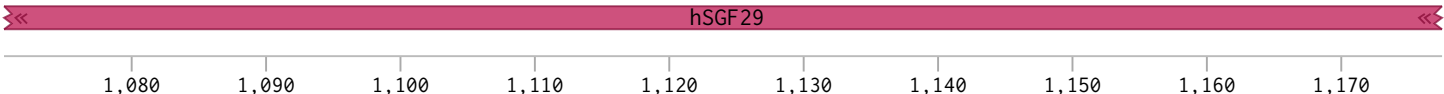
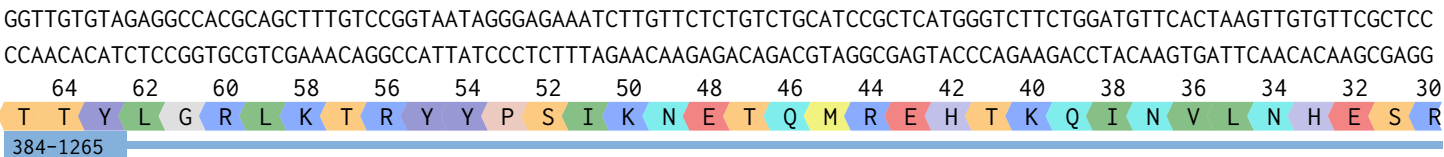
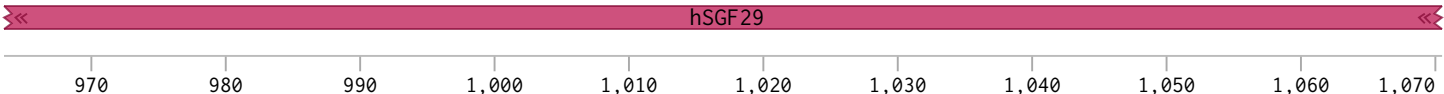
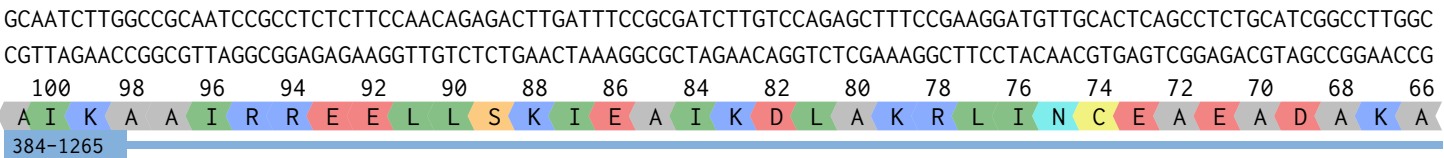
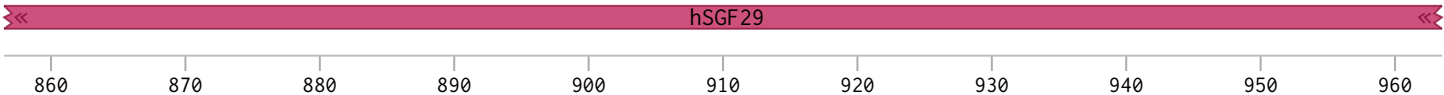
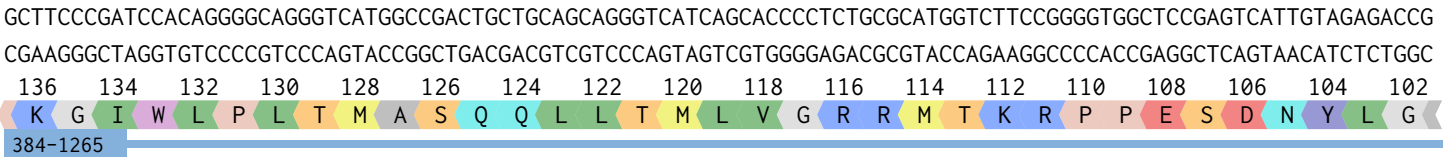
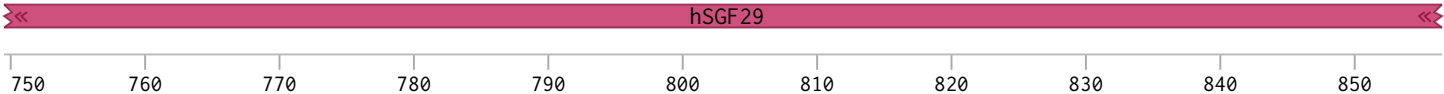
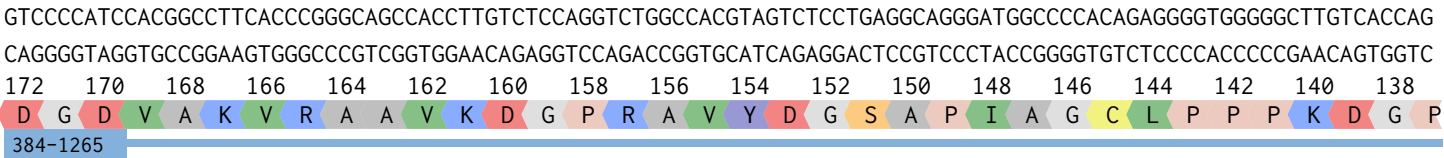
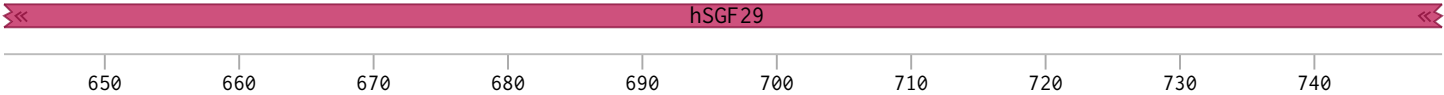
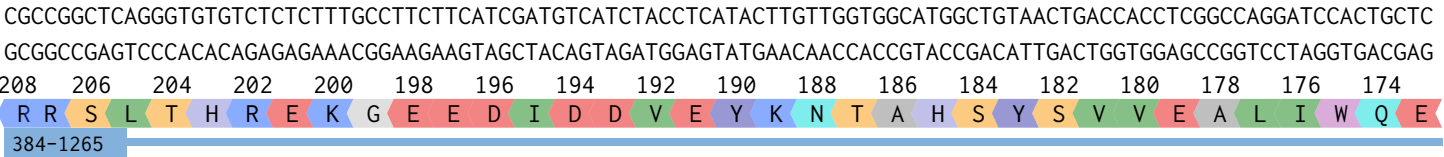


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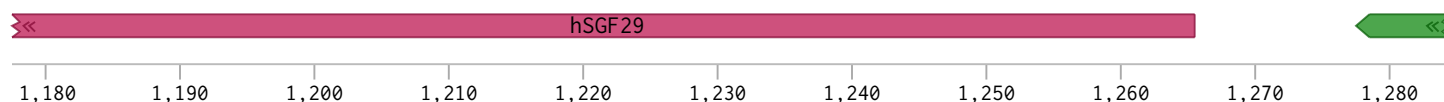


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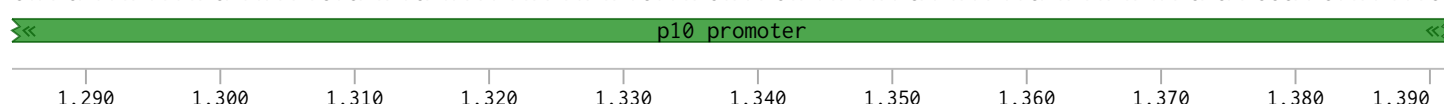




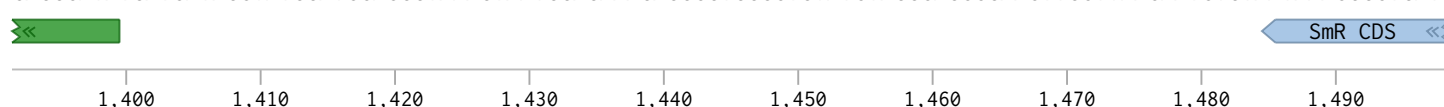
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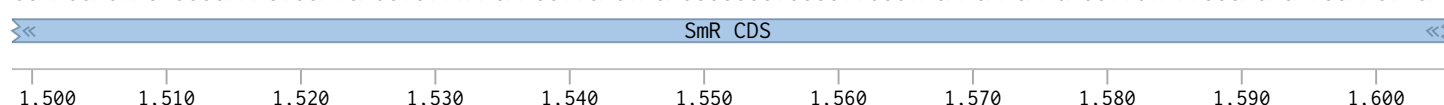
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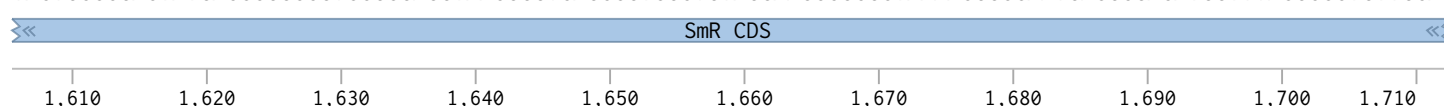
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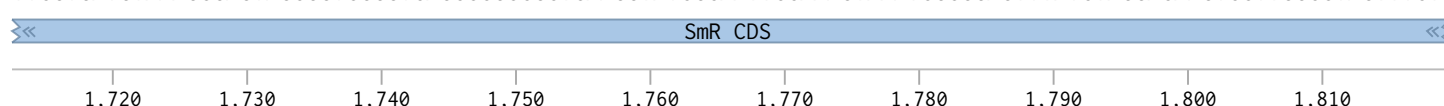
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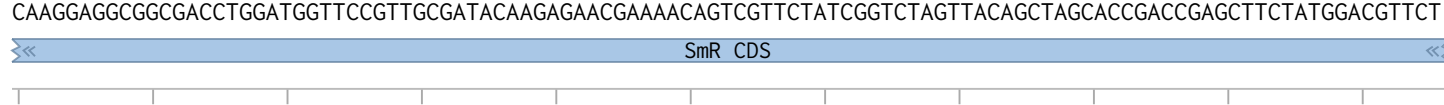
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1,930 1,940 1,950 1,960 1,970 1,980 1,990 2,000 2,010 2,020 2,030

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SmR CDS

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R6K gamma ori Replication origin

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R6K gamma ori Replication origin

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R6K gamma ori Replication origin

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R6K gamma ori Replication origin

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LoxP

HSV TK Poly A

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HSV TK Poly A

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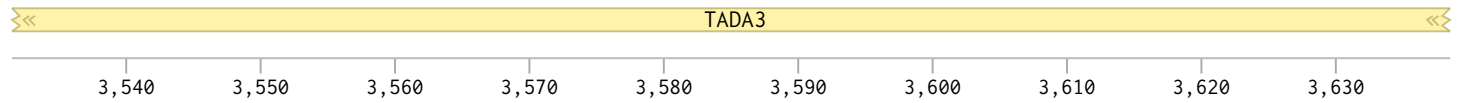
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3480-4778

HSV TK Poly A

TADA3

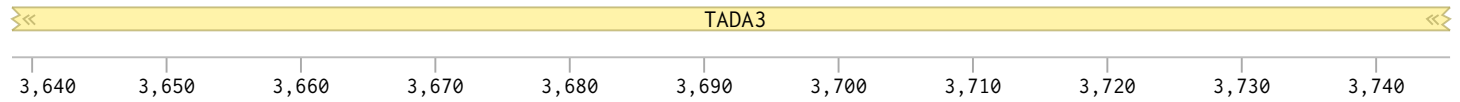
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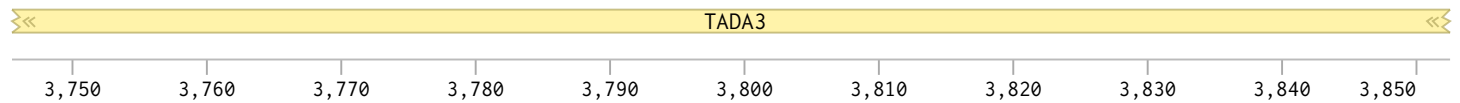


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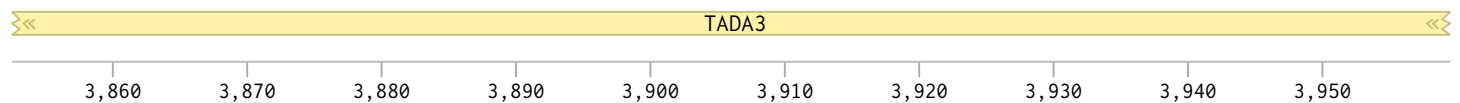
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3480-4778



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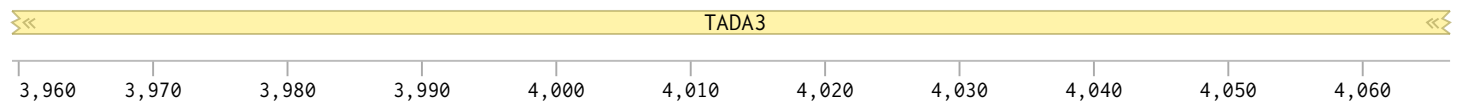


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3480-4778



PshAI

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3480-4778



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3480-4778

« TADA3 »
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3480-4778

« TADA3 »
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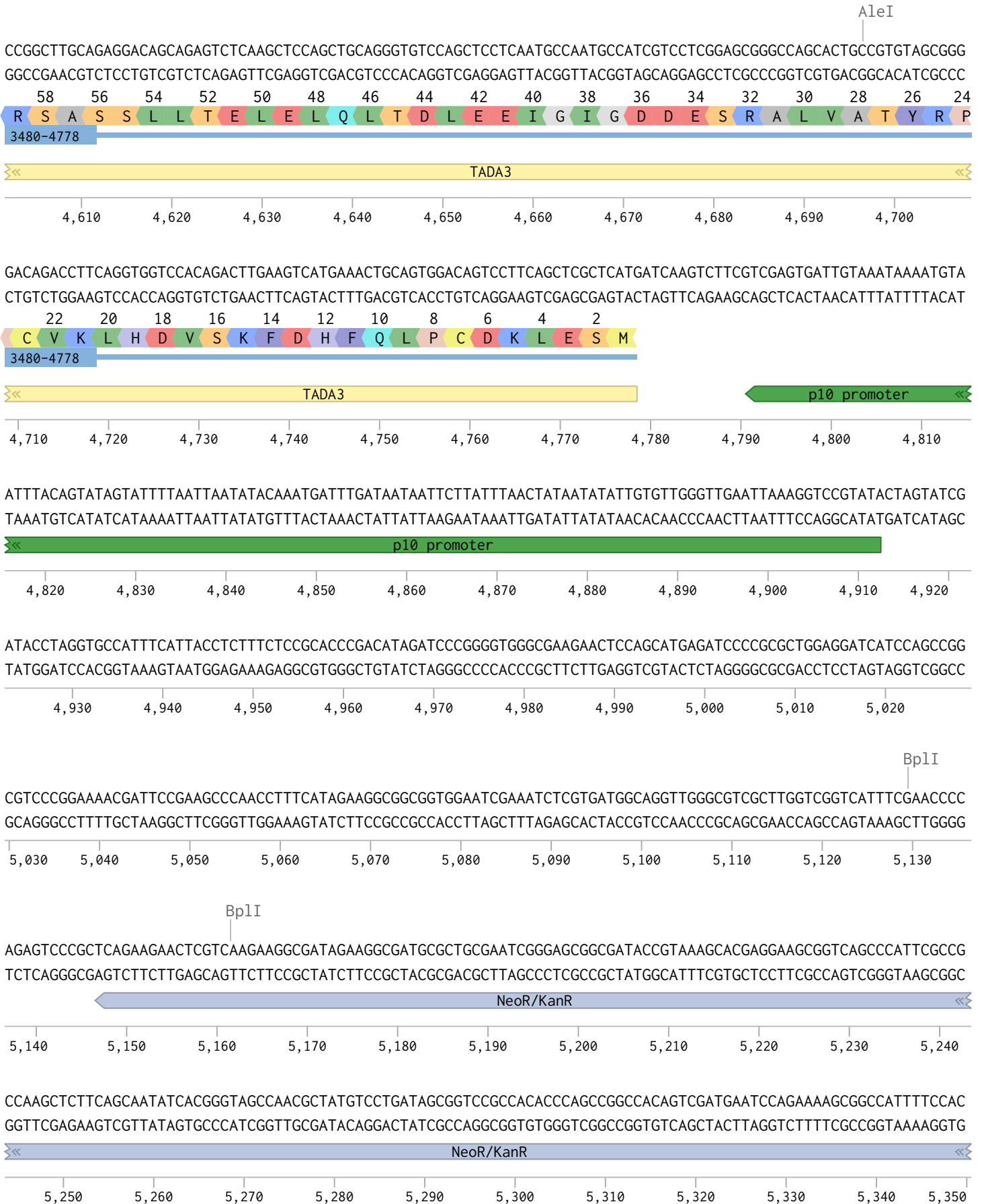
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3480-4778

« TADA3 »
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« NeoR/KanR »

5,360 5,370 5,380 5,390 5,400 5,410 5,420 5,430 5,440 5,450

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CGAGAAGCAGGTCTAGTAGGACTAGCTGTTCTGGCCGAAGGTAGGCTCATGCACGAGCGAGCTACGCTACAAAGCGAACCACCAGCTTACCCGTCCATCGGCCTAGT

« NeoR/KanR »

5,460 5,470 5,480 5,490 5,500 5,510 5,520 5,530 5,540 5,550 5,560

AGCGTATGCAGCCGCCGATTGCATCAGCCATGATGGATACTTTCTCGGCAGGAGCAAGGTGAGATGACAGGAGATCCTGCCCCGGCACTTCGCCCAATAGCAGCCA
TCGCATACGTGGCGGCGTAACGTAGTCGGTACTACCTATGAAAGAGCCGTCCTCGTTCCACTCTACTGTCTCTAGGACGGGGCCGTGAAGCGGGTTATCGTCGGT

« NeoR/KanR »

5,570 5,580 5,590 5,600 5,610 5,620 5,630 5,640 5,650 5,660 5,670

GTCCCTTCCCGCTTCAGTGACAACGTCGAGCACAGCTGCCAAGGAACGCCGTCGTGGCCAGCCACGATAGCCGCGCTGCCTCGTCTGCAGTTCATTAGGGGCAC
CAGGAAGGGCGAAGTCACTGTTGCAGCTCGTGTGACGCGTTCCTTGGGGCAGCACCGGTGCTGCTATCGGCGCGACGGAGCAGGACGTCAAGTAAGTCCCGTG

« NeoR/KanR »

5,680 5,690 5,700 5,710 5,720 5,730 5,740 5,750 5,760 5,770

CGGACAGGTGCGTCTTGACAAAAAGAACCGGGCGCCCTGCGCTGACAGCCGAACACGGCGGCATCAGAGCAGCCGATTGTCTGTTGTGCCAGTCATAGCCGAAT
GCCTGTCCAGCCAGAAGTGTCTTCTGGCCCGGGGACGCGACTGTGCGCCTTGTGCCCGCTAGTCTCGTCGGCTAACAGACAACACGGGTGAGTATCGGCTTA

« NeoR/KanR »

5,780 5,790 5,800 5,810 5,820 5,830 5,840 5,850 5,860 5,870 5,880

AGCCTCTCCACCAAGCGGCCGAGAACCTGCGTGCAATCCATCTTGTTCAATCATGCGAAACGATCCTCATCCTGTCTCTTGATCAGATCTTGATCCCCTGCGCCA
TCGGAGAGGTGGGTTGCGCGCCTCTTGACGCGACGTTAGGTAGAACAAGTTAGTACGCTTGTCTAGGAGTAGGACAGAGAACTAGTCTAGAACTAGGGGACGCGGT

« NeoR/KanR »

5,890 5,900 5,910 5,920 5,930 5,940 5,950 5,960 5,970 5,980 5,990

XcmI

TCAGATCCTTGGCGGCAAGAAAGCCATCCAGTTTACTTTGCAGGGCTTCCCAACCTTACCAGAGGGCGCCCCAGCTGGCAATTCCGGTTCGCTTGCTGTCCATAAAA
AGTCTAGGAACCGCGGTTCTTTTCGGTAGGTCAAATGAAACGTCCCGAAGGGTTGGAATGGTCTCCCGGGGTCGACCGTTAAGGCCAAGCGAACGACAGGTATTTT

6,000 6,010 6,020 6,030 6,040 6,050 6,060 6,070 6,080 6,090

CCGCCCAGTCTAGCTATCGCCATGTAAGCCCACTGCAAGCTACCTGCTTTCTTTGCGCTTGCGTTTTCCCTTGTCAGATAGCCAGTAGCTGACATTCATCCGG
GGCGGGTCAGATCGATAGCGGTACATTCGGGTGACGTTTCGATGGACGAAAGAGAAACGCGAACGCAAAAGGGAACAGGTCTATCGGGTCATCGACTGTAAGTAGGCC

6,100 6,110 6,120 6,130 6,140 6,150 6,160 6,170 6,180 6,190 6,200

GGTCAGACCGTTTTCTGCGGACTGGCTTTCTACGTGTTCCGCTTCCTTTAGCAGCCCTTGCGCCCTGAGTGCTTGCGGCAGCGTGAAGCTAATTCTGTCAGCCGTTA
CCAGTCGTGGCAAAGACGCCTGACCGAAAGATGCACAAGCGAAGGAAATCGTCGGGAACGCGGGACTCACGAACGCCGTCGCACTTCGATTAAGACAGTCGGCAAT

R6Kgamma

6,210 6,220 6,230 6,240 6,250 6,260 6,270 6,280 6,290 6,300 6,310

AGTGTTCTGTGTCAGTGAATTTGCTTTGAGAGGCTCTAAGGGCTTCTAGTGCGTTACATCCCTGGCTTGTGTCCACAACCGTTAAACCTTAAAAGCTTTAAAA
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R6Kgamma

6,320 6,330 6,340 6,350 6,360 6,370 6,380 6,390 6,400 6,410 6,420

GCCTTATATATTCTTTTTTTCTTATAAACTTAAACCTTAGAGGCTATTTAAGTTGCTGATTATATTAATTTTATTGTTCAAACATGAGAGCTTAGTACGTGAA
CGGAATATATAAGAAAAAAGAATATTTGAATTTGGAATCTCCGATAAATCAACGACTAAATATAATTAATAACAAGTTTGTACTCTCGAATCATGCACTT

R6Kgamma

6,430 6,440 6,450 6,460 6,470 6,480 6,490 6,500 6,510 6,520

ACATGAGAGCTTAGTACGTTAGCCATGAGAGCTTAGTACGTTAGCCATGAGGGTTAGTTCGTTAAACATGAGAGCTTAGTACGTTAAACATGAGAGCTTAGTACGT
TGTACTCTCGAATCATGCAATCGGTACTCTCGAATCATGCAATCGGTACTCCCAAATCAAGCAATTTGTACTCTCGAATCATGCAATTTGTACTCTCGAATCATGCA

R6Kgamma

6,530 6,540 6,550 6,560 6,570 6,580 6,590 6,600 6,610 6,620 6,630

GAAACATGAGAGCTTAGTACGTACCATAAAGTTCGTATAGCATACTTATACGAAGTTATCTGTTTAAACGTACCCGTAGTGGCTATGGCAGGGCTTGCCGCCCGCA
CTTTGTACTCTCGAATCATGCAATGGTATTGAAGCATATCGTATGTAATATGCTTCAATAGACCAAATTTGCATGGGCATCACCGATACCGTCCCGAACGGCGGGGCT

LoxP

HSV TK Poly A

6,640 6,650 6,660 6,670 6,680 6,690 6,700 6,710 6,720 6,730 6,740

CGTTGGCTGCGAGCCCTGGGCCTTACCCGAACTTGGGGTTGGGGTGGGAAAAGGAAGAAACGCGGGCGTATTGGTCCCAATGGGGTCTCGGTGGGGTATCGACA
GCAACCGACGCTCGGGACCCGGAAGTGGGCTTGAACCCCAACCCACCCCTTTCTTCTTTGCGCCCGCATACCAGGGTTACCCAGAGCCACCCCATAGCTGT

HSV TK Poly A

6,750 6,760 6,770 6,780 6,790 6,800 6,810 6,820 6,830 6,840

GAGTGCCAGCCCTGGGACCGAACCCCGCTTTATGAACAAACGACCAACACCCGTGCGTTTTATTCTGTCTTTTTATTGCCGTCATAGCGGGGTTCTTCCGGTA
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HSV TK Poly A

6,850 6,860 6,870 6,880 6,890 6,900 6,910 6,920 6,930 6,940 6,950

TTGTCTCCTTCCGTGTTTCAGTTAGCCTCCCCATCTCCGGTACCGCATGCTATGCATCAGCTGCTAGCACCATGGCTCGAGATCCCGGGTGATCAAGTCTTCGTC
AACAGAGGAAGGCACAAAGTCAATCGGAGGGGTAGAGGGCCATGGCGTACGATACGTAGTCGACGATCGTGGTACCGAGCTCTAGGGCCCACTAGTTCAGAAGCAG

HSV TK Poly A

6,960 6,970 6,980 6,990 7,000 7,010 7,020 7,030 7,040 7,050 7,060

GAGTGATTGTAAATAAAATGTAATTTACAGTATAGTATTTTAATTAATATACAAATGATTGATAATAATTCTTATTTAACTATAATATATTGTGTTGGGTTGAATT
CTCACTAACATTTATTTTACATTAAATGTCATATCATAAAATTAATTATATGTTTACTAACTATTATTAAGAATAAATTGATATTATATAACACAACCCAACCTAA

« p10 promoter »

7,070 7,080 7,090 7,100 7,110 7,120 7,130 7,140 7,150 7,160

AAAGGTCCGTATACTAGTATCGATTCCGCGACCTACTCCGGAATATTAATAGATCATGGAGATAATTAATGATAACCATCTCGAAATAAATAAGTATTTTACTGT
TTCCAGGCATATGATCATAGCTAAGCGCTGGATGAGGCCTTATAATTATCTAGTACCTCTATTAATTTTACTATTGGTAGAGCGTTTATTTATCATAAAATGACA

« p10...er » polh »

7,170 7,180 7,190 7,200 7,210 7,220 7,230 7,240 7,250 7,260 7,270

TTTCGTAACAGTTTTGTAATAAAAAACCTATAAATATTTCCGATTATTCATACCGTCCCACCATCGGGCGCGGATCCCGGTCCGATGCATCACCATCACCATCACC
AAAGCATTGTCAAAACATTATTTTTTGGATATTTATAAGGCCTAATAAGTATGGCAGGTGGTAGCCCGCGCCTAGGGCCAGGCTACGTAGTGGTAGTGGTAGTGG

2 4 6
M H H H H H H
7362-10568

» polh 10x His-Tag »

7,280 7,290 7,300 7,310 7,320 7,330 7,340 7,350 7,360 7,370 7,380

ATCACCATCACGATTACGATATCCCAACGACCGAAAACCTGTATTTTCAGGGCATGGCTAGCACCATGGATATCAAGCTTACCGGTGAATTCGCTATGGACAAAGAT
TAGTGGTAGTGCTAATGCTATAGGGTTGCTGGCTTTTGACATAAAAGTCCCGTACCGATCGTGGTACCTATAGTTTGAATGGCCACTTAAGCGATACCTGTTTCTA

8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42
H H H H D Y D I P T T E N L Y F C Q G M A S T M D I K L T G E F A M D K D
7362-10568

» 10...g TEV cle...e site SNA...DS »

7,390 7,400 7,410 7,420 7,430 7,440 7,450 7,460 7,470 7,480 7,490

TGCGAAATGAAACGTACCACCCTGGATAGCCCGCTGGGCAAACCTGGAACAGCGGCTGCGAACAGGGCCTGCATGAAATTAACCTGCTGGGTAAAGGCACCAGCGC
ACGCTTTACTTTGCATGGTGGGACCTATCGGGCGACCCGTTTGACCTTGACTCGCGGACGCTTGTCCCGGACGTACTTTAATTTGACGACCCATTTCCGTGGTTCGCG

44 46 48 50 52 54 56 58 60 62 64 66 68 70 72 74 76 78
C E M K R T T L D S P L G K L E L S G C E Q G L H E I K L L G K G T S A
7362-10568

» SNAP-tag(R)(1) CDS »

7,500 7,510 7,520 7,530 7,540 7,550 7,560 7,570 7,580 7,590

GGCCGATGCGGTTGAAGTTCCGGCCCCGGCCCGTGTGGGTGGTCCGGAACCGCTGATGCAGGCGACCGCGTGGCTGAACCGGTATTTTCATCAGCCGGAAGCGA
CCGGCTACGCCAACTTCAAGGCCGGGGCCGGCGGCACGCCACCAGGCCTTGGCGACTACGTCGCTGGCGCACCGACTTGCGCATAAAAGTAGTCGGCCTTCGCT

80 82 84 86 88 90 92 94 96 98 100 102 104 106 108 110 112 114
A D A V E V P A P A A V L G G P E P L M Q A T A W L N A Y F H Q P E A
7362-10568

» SNAP-tag(R)(1) CDS »

7,600 7,610 7,620 7,630 7,640 7,650 7,660 7,670 7,680 7,690 7,700

TTGAAGAATTTCCGGTTCGCGCTGCATCATCCGGTGTTCAGCAGGAGAGCTTTACCCGTCAGGTGCTGTGGAACTGCTGAAAGTGGTTAAATTTGGCGAAGTG
 AACTTCTTAAAGGCCAAGGCCGCGACGTAGTAGCCACAAAGTCGTCCTCTCGAAATGGGCAGTCCACGACACCTTTGACGACTTTACCAATTTAAACCGCTTCAC
 116 118 120 122 124 126 128 130 132 134 136 138 140 142 144 146 148 150
 I E E F P V P A L H H P V F Q Q E S F T R Q V L W K L L K V V K F G E V
 7362-10568

»» SNAP-tag(R)(1) CDS »»
 7,710 7,720 7,730 7,740 7,750 7,760 7,770 7,780 7,790 7,800 7,810

BstEII

ATTAGCTATCAGCAGCTGGCGCCCTGGCGGTAATCCGGCGGCCACCGCCCGTAAAAACCGCGCTGAGCGGTAACCCGGTGCCGATTCTGATTCCGTGCCATCG
 TAATCGATAGTCGTCGACCGCGGACCGCCATTAGGCCGCGCGTGGCGCGGCAATTTGGCGCGACTCGCCATTGGGCCACGGCTAAGACTAAGGCACGGTAGC
 152 154 156 158 160 162 164 166 168 170 172 174 176 178 180 182 184 186
 I S Y Q Q L A A L A G N P A A T A A V K T A L S G N P V P I L I P C H R
 7362-10568

»» SNAP-tag(R)(1) CDS »»
 7,820 7,830 7,840 7,850 7,860 7,870 7,880 7,890 7,900 7,910

TGTGGTTAGCTCTAGCGGTGCGGTTGGCGGTTATGAAGGTGGTCTGGCGGTGAAAGAGTGGTCTGCCCCATGAAGGTCATCGTCTGGGTAACCCGGGTCTGGGAC
 ACACCAATCGAGATCGCCACGCCAACCGCCAATACTTCCACCAGACCGCCACTTTCTACCGACGACCGGGTACTTCCAGTAGCAGACCCATTTGGCCCAGACCCTG
 188 190 192 194 196 198 200 202 204 206 208 210 212 214 216 218 220
 V V S S S G A V G G Y E G G L A V K E W L L A H E G H R L G K P G L G
 7362-10568

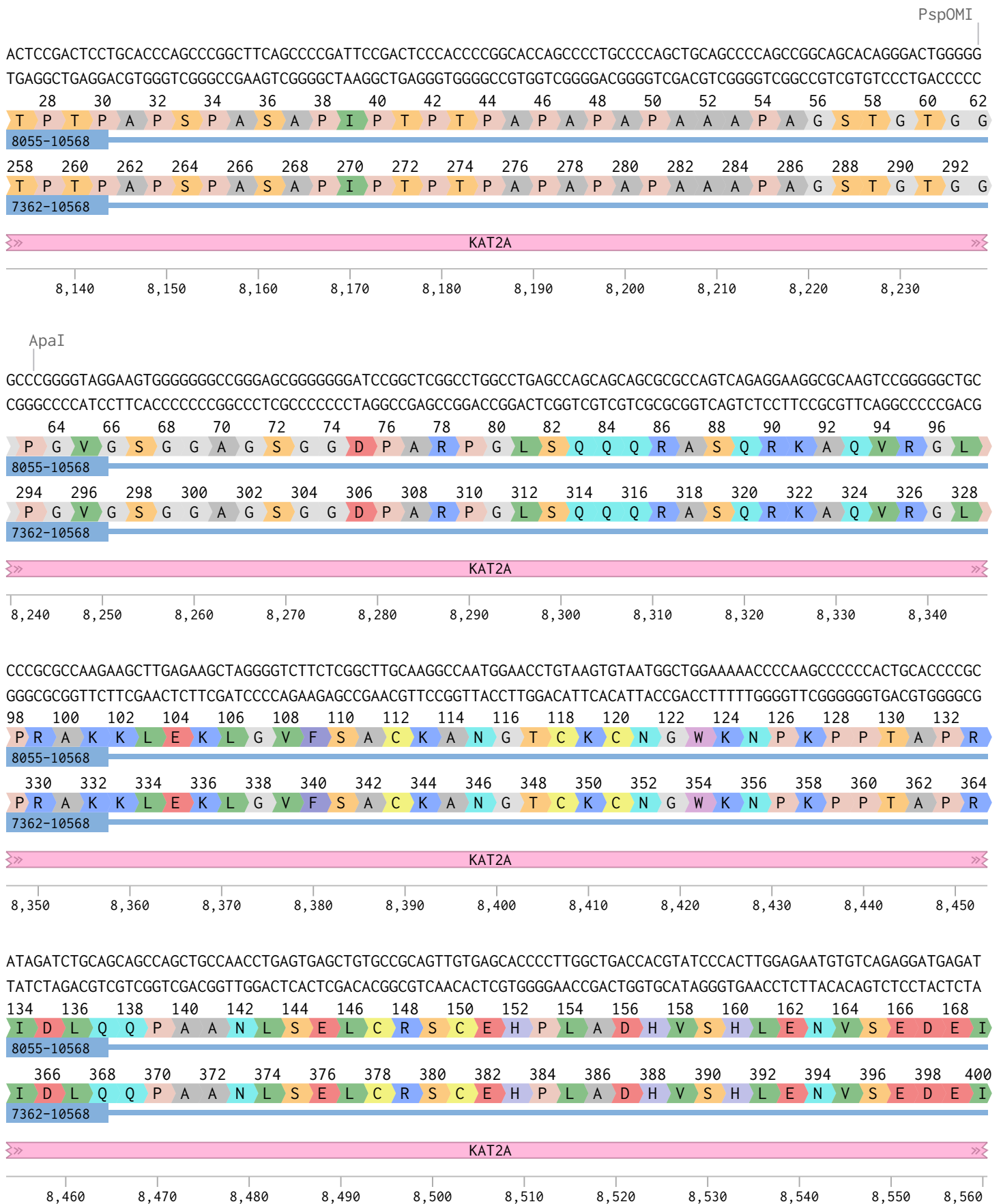
»» SNAP-tag(R)(1) CDS »»
 7,920 7,930 7,940 7,950 7,960 7,970 7,980 7,990 8,000 8,010 8,020

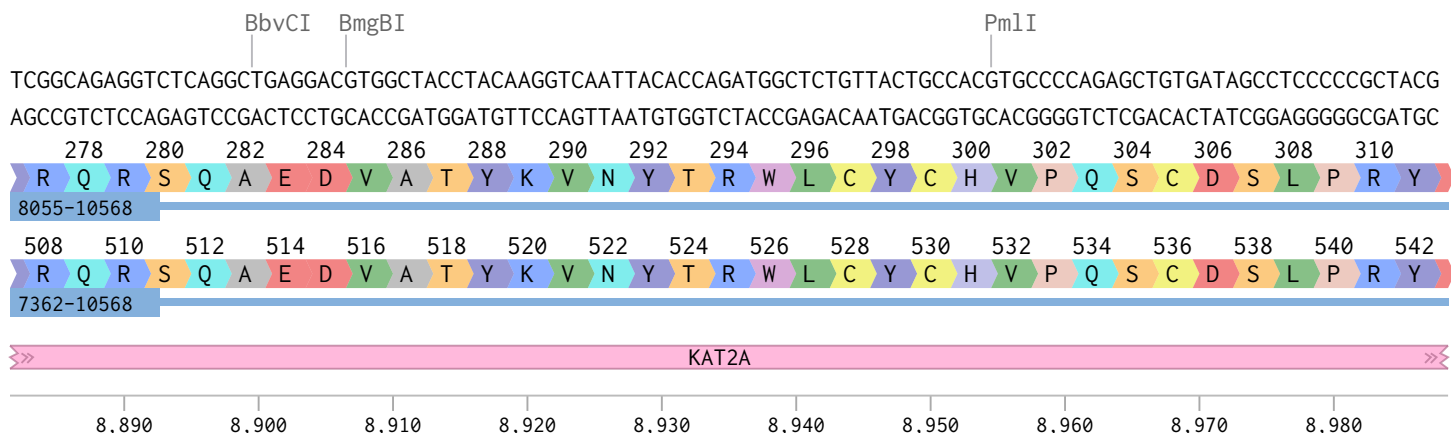
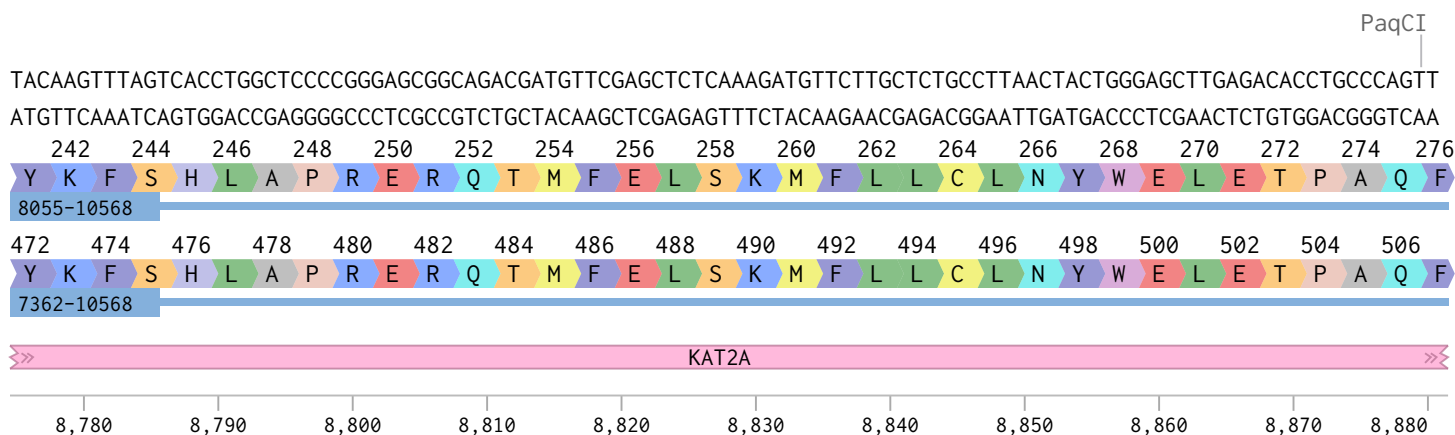
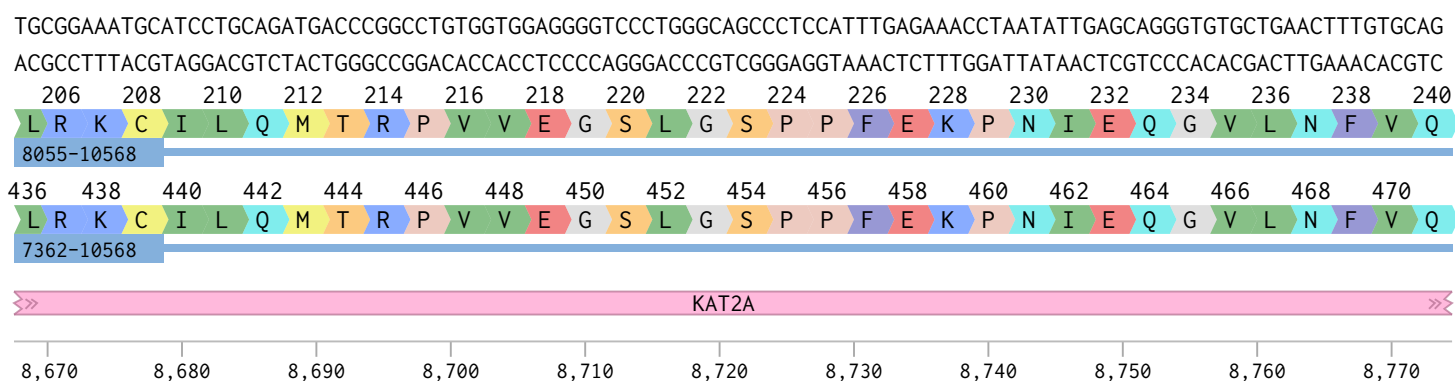
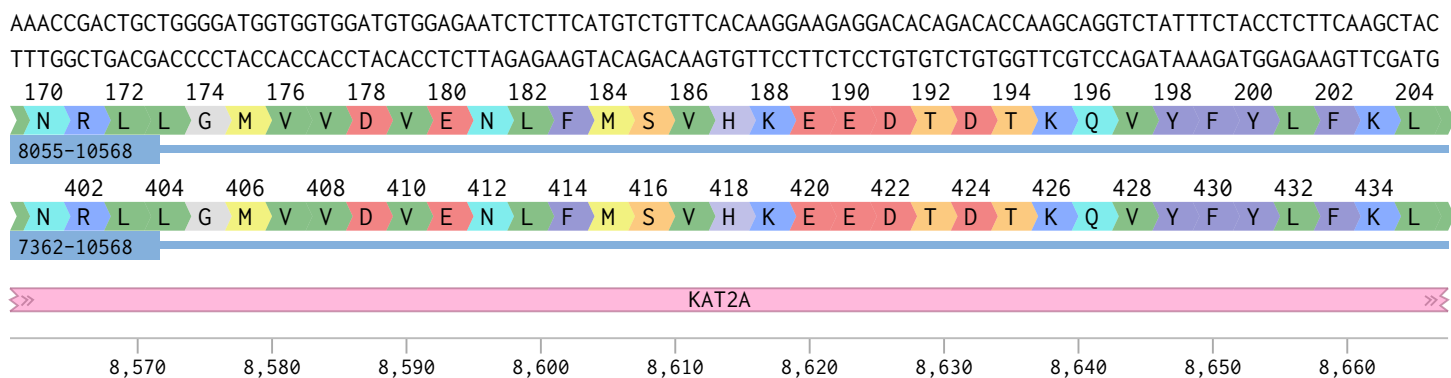
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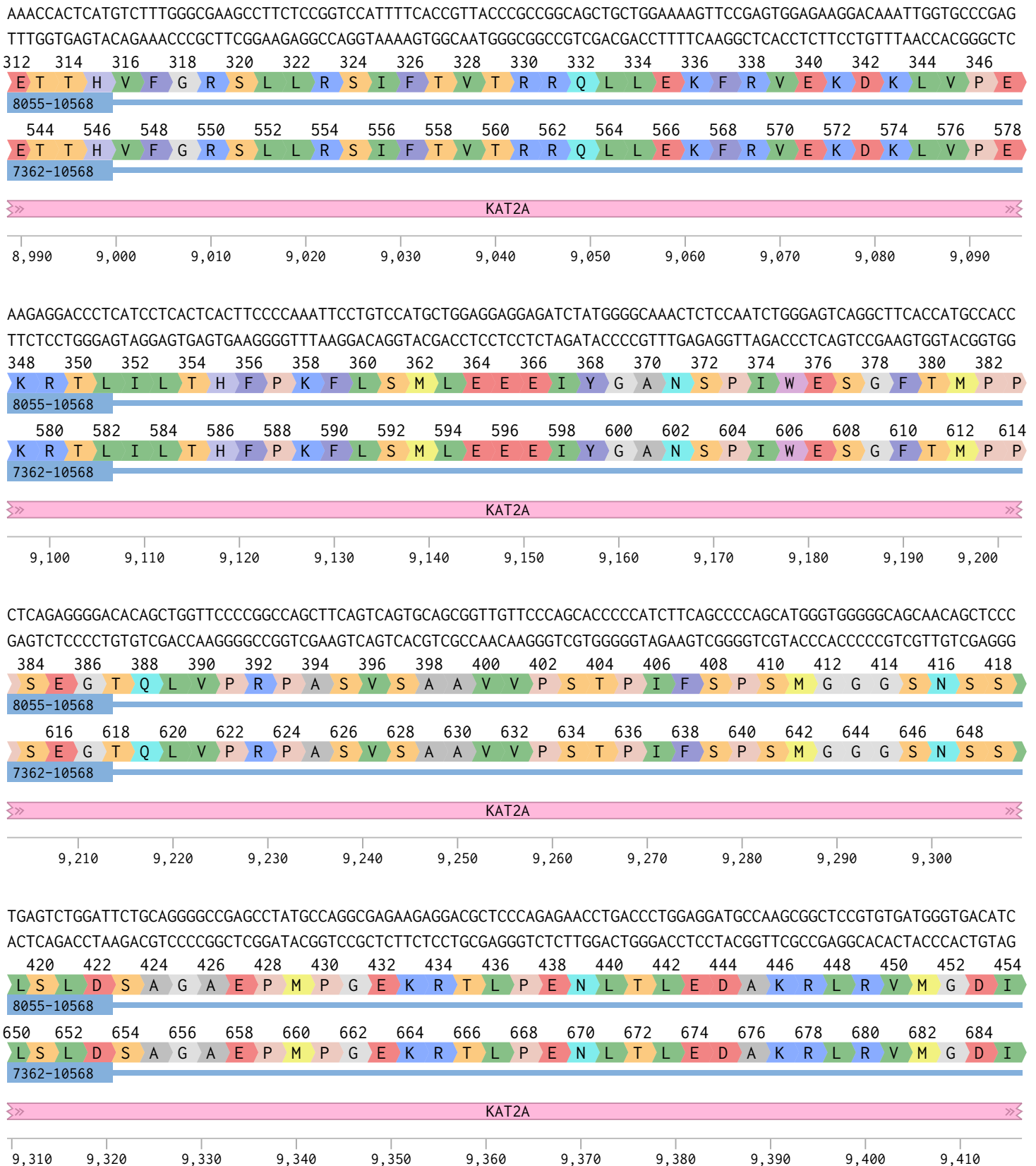
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 2 4 6 8 10 12 14 16 18 20 22 24 26
 M A E P S Q A P T P A P A A Q P R P L Q S P A P A P
 8055-10568

222 224 226 228 230 232 234 236 238 240 242 244 246 248 250 252 254 256
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 7362-10568

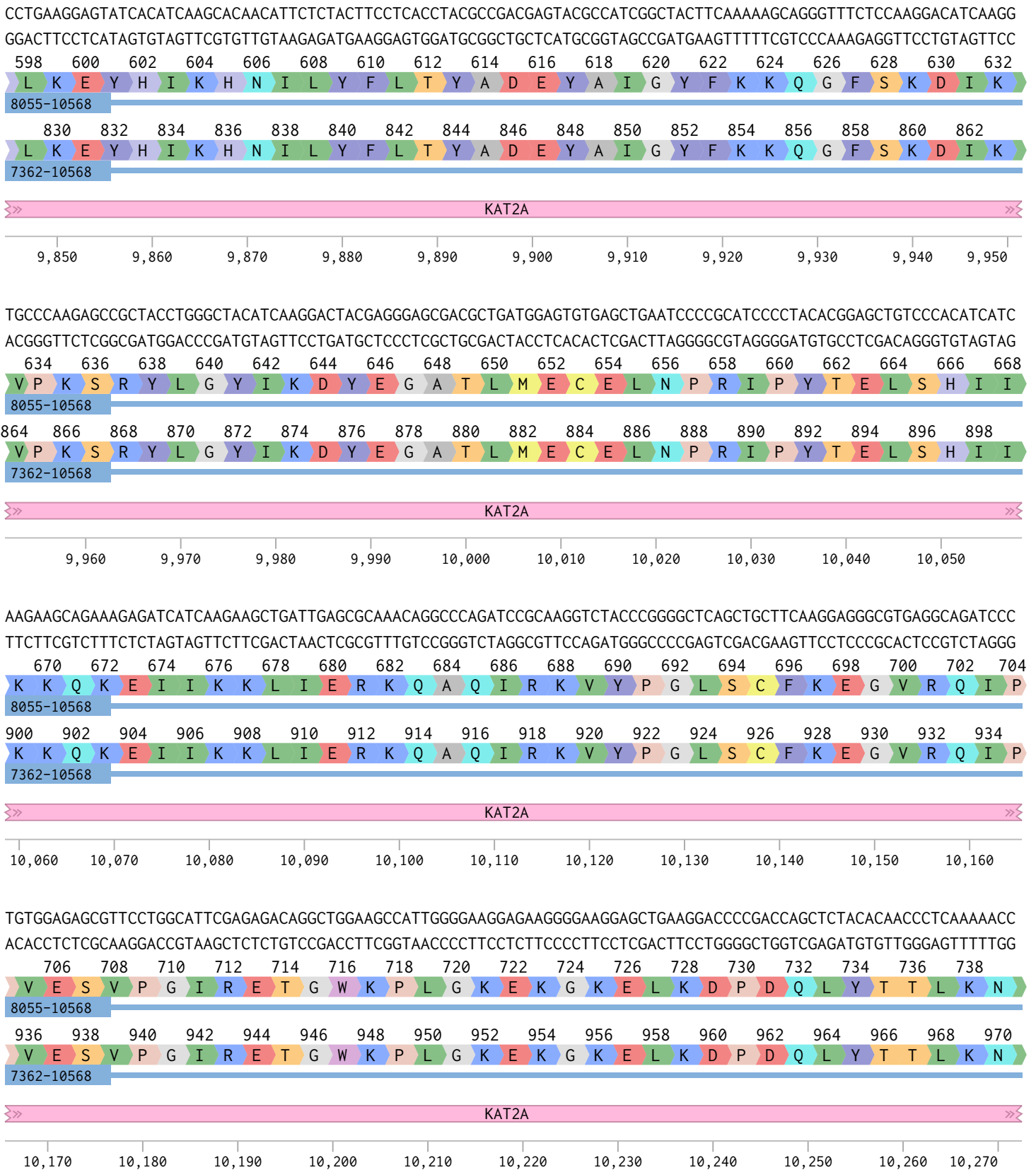
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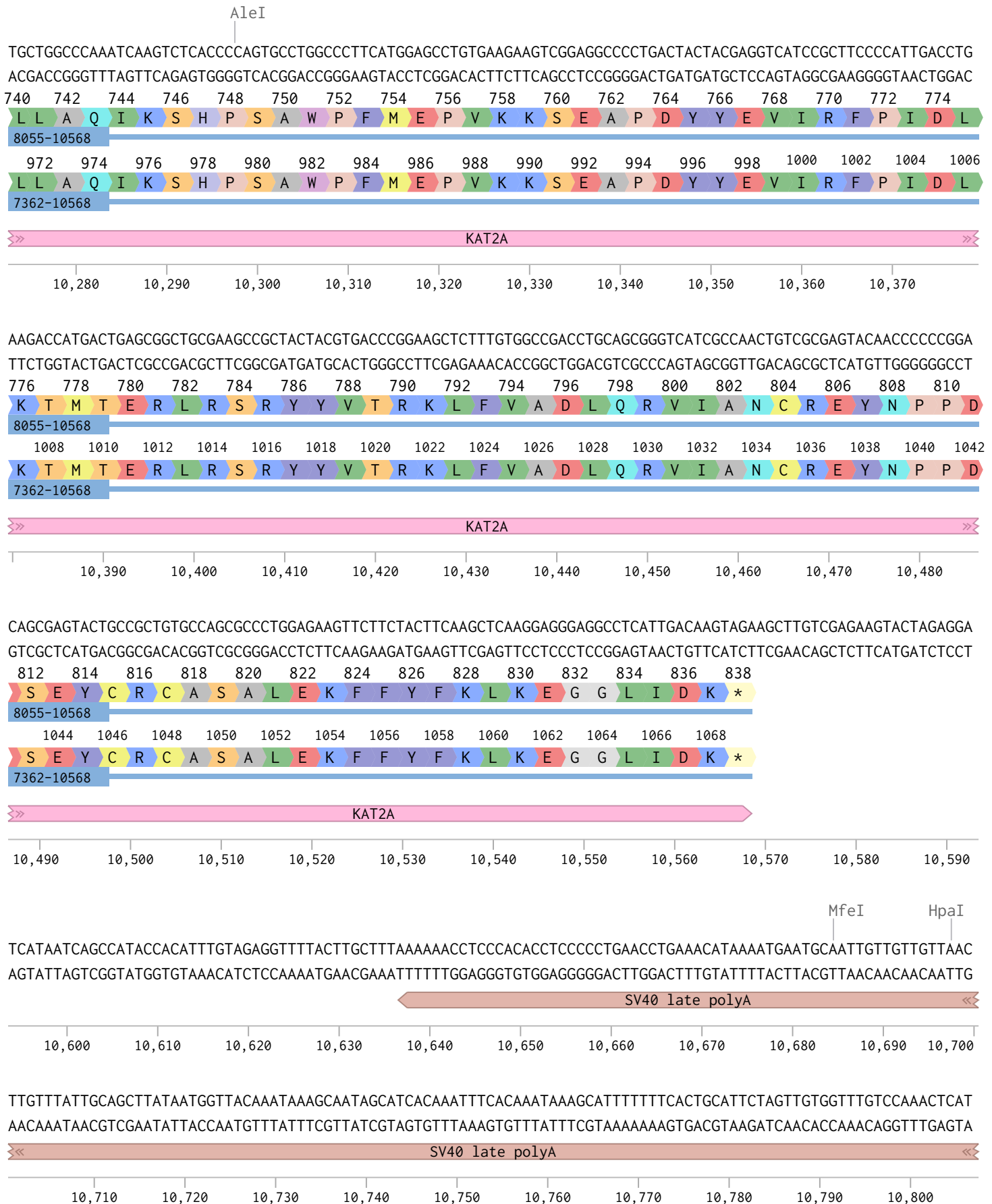












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GTTACATAGAATAGTACAGACCTAGACTAGTGACGAACCTCGGATCTTCTAGGCCGACGATTGTTTCGGGCTTTCCTTCGACTCAACCGACGACGGTGGCGACTCGTT

SV40 late polyA

10,810 10,820 10,830 10,840 10,850 10,860 10,870 10,880 10,890 10,900 10,910

TAACTATCATAACCCCTAGGAGATCCGAACCAGATAAGTGAAATCTAGTTCCAAACCTATTTTGTCAATTTTAATTTTCGTATTAGCTTACGACGCTACACCCAGTTC
ATTGATAGTATTGGGGATCCTCTAGGCTTGGTCTATTCACCTTTAGATCAAGGTTTGATAAAACAGTAAAAATTAAGCATAATCGAATGCTGCGATGTGGGTCAAG

Tn7L

10,920 10,930 10,940 10,950 10,960 10,970 10,980 10,990 11,000 11,010 11,020

CCATCTATTTTGTCACTCTTCCCTAAATAATCCTTAAAACTCCATTTCCACCCCTCCAGTTCCTCAACTATTTTGTCCGCCACAGCGGGGCATTTTCTTCCTGT
GGTAGATAAAACAGTGAGAAGGATTTATTAGGAATTTTGTAGGTAAAGGTGGGAGGGTCAAGGTTGATAAAACAGCGGGTGTGCCCCGTAAAAAGAAGGACA

Tn7L

11,030 11,040 11,050 11,060 11,070 11,080 11,090 11,100 11,110 11,120

TATGTTTTTAAATCAACATCCTGCCAACTCCATGTGACAAACCGTCATCTTCGGCTACTTTTTCTCTGTACAGAATGAAAATTTTCTGTCATCTCTTCGTTATTA
ATACAAAATTAGTTTGTAGGACGGTTGAGGTACACTGTTTGGCAGTAGAAGCCGATGAAAAAGACAGTGTCTTACTTTTAAAAAGACAGTAGAGAAGCAATAAT

11,130 11,140 11,150 11,160 11,170 11,180 11,190 11,200 11,210 11,220 11,230

ATGTTTGAATTGACTGAATATCAACGCTTATTTGCAGCCTGAATGGCGAATGGGACGCGCCCTGTAGCGCGCATTAAAGCGCGCGGGTGTGGTGGTTACGCGCAG
TACAAACATTAAGTACTTATAGTTGCGAATAAACGTCGGACTTACCGCTTACCCTGCGCGGGACATCGCCGCGTAATTCGCGCCGCCACACCACCAATGCGCGTC

11,240 11,250 11,260 11,270 11,280 11,290 11,300 11,310 11,320 11,330 11,340

CGTGACCGCTACACTTGCCAGCGCCCTAGCGCCCGCTCCTTTTCGCTTTCTTCCCTTCTTCTCGCCACGTTTCGCCGGCTTTCCCGTCAAGCTCTAAATCGGGGGC
GCACTGGCGATGTGAACGGTCGCGGGATCGCGGGCGAGGAAAGCGAAAGAAGGAAGGAAAGAGCGGTGCAAGCGCCGAAAGGGGCAGTTCGAGATTTAGCCCCCG

11,350 11,360 11,370 11,380 11,390 11,400 11,410 11,420 11,430 11,440

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AGGGAAATCCCAAGGCTAAATCAGAAATGCCGTGGAGCTGGGGTTTTTGAATAATCCCACTACCAAGTGCATCACCCGGTAGCGGGACTATCTGCCAAAAAGCG

11,460 11,470 11,480 11,490 11,500 11,510 11,520 11,530 11,540 11,550

AloI

CCTTTGACGTTGGAGTCCACGTTCTTAATAGTGGACTCTTGTTCCAAACTGGAACAACACTCAACCTATCTCGGTCTATTCTTTGATTTATAAGGGATTTTGCCG
GGAAACTGCAACCTCAGGTGCAAGAATTATCACCTGAGAACAAGGTTTGACCTTGTTGTGAGTTGGGATAGAGCCAGATAAGAAAATAAATATTCCTAAAACGGC

11,560 11,570 11,580 11,590 11,600 11,610 11,620 11,630 11,640 11,650 11,660

ATTTGCGCTATTGGTTAAAAATGAGCTGATTTAACAAAAATTTAACGCAATTTTAAACAAATATTAACGCTTACAATTTAGGTGGCACTTTTCGGGGAAATGTG
TAAAGCCGATAACCAATTTTTTACTCGACTAAATTGTTTTTAAATTGCGCTTAAATTTGTTTTATAATTGCGAATGTTAAATCCACCGTAAAAGCCCCCTTACAC

11,670 11,680 11,690 11,700 11,710 11,720 11,730 11,740 11,750 11,760 11,770

CGCGGAACCCCTATTTGTTTATTTTCTAAATACATTCAAATATGTATCCGCTCATGAGACAATAACCCTGATAAATGCTTCAATAATTGAAAAAGGAAGAGTAT
GCGCCTTGGGGATAAACAAATAAAAAGATTTATGTAAGTTTATACATAGGCGAGTACTCTGTTATTGGGACTATTTACGAAGTTATTATAACTTTTCTTCTCATA

AmpR promoter(1) Promoter

11,780 11,790 11,800 11,810 11,820 11,830 11,840 11,850 11,860 11,870

GAGTATTCAACATTTCCGTGTCGCCCTTATTCCCTTTTTGCGGCATTTTGCCTTCCTGTTTTGCTCAGGAGAAACGCTGGTGAAAGTAAAGATGCTGAAGATC
CTCATAAGTTGTAAAGGCACAGCGGAATAAGGGAAAAACGCCGTAAAACGGAAGGACAAAAACGAGTGGGTCTTTGCGACCACTTTCATTTTCTACGACTTCTAG

11,880 11,890 11,900 11,910 11,920 11,930 11,940 11,950 11,960 11,970 11,980

AGTTGGGTGCACGAGTGGGTTACATCGAACTGGATCTAACAGCGGTAAGATCCTTGAGAGTTTTGCCCCGAAGAACGTTTTCCAATGATGAGCACTTTTAAAGTT
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AmpR

11,990 12,000 12,010 12,020 12,030 12,040 12,050 12,060 12,070 12,080 12,090

CTGCTATGTGGCGCGGTATTATCCCGTATTGACGCCGGGCAAGAGCAACTCGGTGCGCGCATACACTATTCTCAGAATGACTTGGTTGAGTACTCACCAGTCACAGA
GACGATACACCGCGCCATAATAGGGCATAACTGCGGCCCGTTCTCGTTGAGCCAGCGCGTATGTGATAAGAGTCTTACTGAACCAACTCATGAGTGGTCAGTGTCT

AmpR

12,100 12,110 12,120 12,130 12,140 12,150 12,160 12,170 12,180 12,190

PvuI

AAAGCATCTTACGGATGGCATGACAGTAAGAGAATTATGCAGTGCTGCCATAACCATGAGTGATAAACTGCGGCCAACTTACTTCTGACAACGATCGGAGGACCGA
TTTCGTAGAATGCCTACCGTACTGTCTTCTTAATACGTACGACGGTATTGGTACTCACTATTGTGACGCCGGTTGAATGAAGACTGTTGCTAGCCTCCTGGCT

AmpR

12,200 12,210 12,220 12,230 12,240 12,250 12,260 12,270 12,280 12,290 12,300

AGGAGCTAACCGCTTTTTTGACAACATGGGGGATCATGTAACCTGCCTTGATCGTTGGGAACCGGAGCTGAATGAAGCCATACCAAACGACGAGCGTGACACCACG
TCCTCGATTGGCGAAAAACGTGTTGTACCCCTAGTACATTGAGCGGAAGTAGCAACCTTGGCCTCGACTTACTTCGGTATGGTTTGTGCTCGCACTGTGGTGC

AmpR

12,310 12,320 12,330 12,340 12,350 12,360 12,370 12,380 12,390 12,400 12,410

ATGCCTGTAGCAATGGCAACAACGTTGCGCAAATTAACCTGGCGAACTACTTACTCTAGCTTCCCGGCAACAATTAAGACTGGATGGAGGCGGATAAAGTTGC
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AmpR

12,420 12,430 12,440 12,450 12,460 12,470 12,480 12,490 12,500 12,510

AGGACCACTTCTGCGCTCGGCCCTTCCGGCTGGCTGGTTTATTGCTGATAAATCTGGAGCCGGTGAGCGTGGGTCTCGGGTATCATTGCAGCACTGGGGCCAGATG
TCCTGGTGAAGACGCGAGCCGGGAAGGCCGACCGACCAATAACGACTATTTAGACCTCGGCCACTCGCACCCAGAGCGCCATAGTAACGTCGTGACCCCGGTCTAC

AmpR

12,530 12,540 12,550 12,560 12,570 12,580 12,590 12,600 12,610 12,620

GTAAGCCCTCCCGTATCGTAGTTATCTACACGACGGGGAGTCAGGCAACTATGGATGAACGAAATAGACAGATCGCTGAGATAGGTGCCTCACTGATTAAGCATTGG
CATTCCGGAGGGCATAGCATCAATAGATGTGCTGCCCTCAGTCCGTTGATACCTACTTGCTTTATCTGTCTAGCGACTCTATCCACGGAGTGACTAATTCGTAACC

>> AmpR >>

12,630 12,640 12,650 12,660 12,670 12,680 12,690 12,700 12,710 12,720 12,730

TAAGTGTGACACCAAGTTTACTCATATATACTTTAGATTGATTTAAAACTTCATTTTTAATTTAAAAGGATCTAGGTGAAGATCCTTTTTGATAATCTCATGACCAA
ATTGACAGTCTGGTTCAAATGAGTATATATGAAATCTAACTAAATTTGAAGTAAAAATTAATTTTCTAGATCCACTTCTAGGAAAACTATTAGAGTACTGGTT

Co...n >>

12,740 12,750 12,760 12,770 12,780 12,790 12,800 12,810 12,820 12,830 12,840

AATCCCTTAACGTGAGTTTTCGTTCCTGAGCGTCAGACCCCGTAGAAAAGATCAAAGGATCTTCTTGAGATCCTTTTTTCTGCGGTAATCTGCTGCTTGCAAA
TTAGGAATTGCACTCAAAAGCAAGGTGACTCGCAGTCTGGGGCATCTTTTCTAGTTTCTAGAGAAGTCTAGGAAAAAGACGCGCATTAGACGACGAACGTTT

>> ColE1 origin >>

12,850 12,860 12,870 12,880 12,890 12,900 12,910 12,920 12,930 12,940

CAAAAAACCACCGCTACCAGCGGTGTTTGTTCGCGGATCAAGAGCTACCAACTCTTTTTCCGAAGGTAAGTGGCTTCAGCAGAGCGCAGATACCAATACTGTT
GTTTTTTGGTGGCGATGGTCGCCACCAACAACAGGCCTAGTTCTCGATGGTTGAGAAAAAGGCTTCATTGACCGAAGTCGTCTCGCTCTATGGTTTATGACAA

>> ColE1 origin >>

12,950 12,960 12,970 12,980 12,990 13,000 13,010 13,020 13,030 13,040 13,050

CTTCTAGTGTAGCCGTAGTTAGGCCACCACTTCAAGAACTCTGTAGCACCGCTACATACCTCGCTCTGCTAATCCTGTTACCAGTGGCTGCTGCCAGTGGCGATAA
GAAGATCATATCGGCATCAATCCGGTGGTGAAGTTCTTGAGACATCGTGGCGGATGTATGGAGCGAGACGATTAGGACAATGGTCACCGACGACGGTCACCGCTATT

>> ColE1 origin >>

13,060 13,070 13,080 13,090 13,100 13,110 13,120 13,130 13,140 13,150 13,160

GTCGTGTCTTACCGGTTGGACTCAAGACGATAGTTACCGGATAAGGCGCAGCGTCGGGCTGAACGGGGGTTCTGTCACACAGCCAGCTTGGAGCGAACGACCT
CAGCACAGAATGGCCCAACCTGAGTTCTGCTATCAATGGCTATTCCGCGTCGCCAGCCGACTTGCCCCCAAGCACGTGTGTCGGGTCGAACCTCGCTTGCTGGA

>> ColE1 origin >>

13,170 13,180 13,190 13,200 13,210 13,220 13,230 13,240 13,250 13,260

ACACCGAACTGAGATACCTACAGCGTGAGCTATGAGAAAGCGCCACGCTTCCGAAGGGAGAAAGGCGGACAGGTATCCGGTAAGCGGCAGGGTCGGAACAGGAGAG
TGTGGCTTGACTCTATGGATGTCGACTCGATACTTTTCGCGGTGCGAAGGGCTTCCTCTTTCCGCTGTCCATAGGCCATTGCGCGTCCAGCCTTGTCCTCTC

>> ColE1 origin >>

13,270 13,280 13,290 13,300 13,310 13,320 13,330 13,340 13,350 13,360 13,370

CGCACGAGGGAGCTTCCAGGGGAAACGCCTGGTATCTTTATAGTCCTGTGCGGTTTCGCCACCTCTGACTTGAGCGTCGATTTTTGTGATGCTCGTCAGGGGGCG
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>> ColE1 origin >>

13,380 13,390 13,400 13,410 13,420 13,430 13,440 13,450 13,460 13,470 13,480

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» ColE1 origin »

13,490 13,500 13,510 13,520 13,530 13,540 13,550 13,560 13,570 13,580

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13,600 13,610 13,620 13,630 13,640 13,650 13,660 13,670 13,680 13,690

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»

13,700 13,710 13,720 13,730 13,740 13,750 13,760 13,770 13,780 13,790 13,800

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» Tn7R »

13,810 13,820 13,830 13,840 13,850 13,860 13,870 13,880 13,890 13,900 13,910

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» Tn7R »

13,920 13,930 13,940 13,950 13,960 13,970 13,980 13,990 14,000 14,010

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»

Gent2 »

14,020 14,030 14,040 14,050 14,060 14,070 14,080 14,090 14,100 14,110 14,120

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» Gent2 »

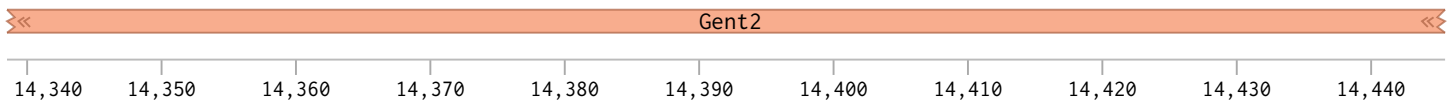
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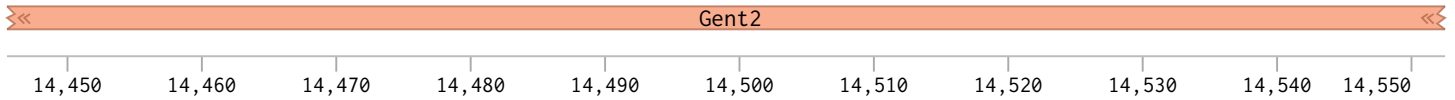
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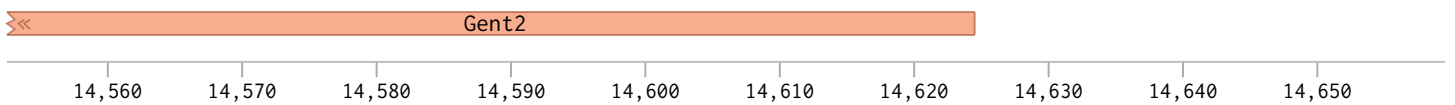
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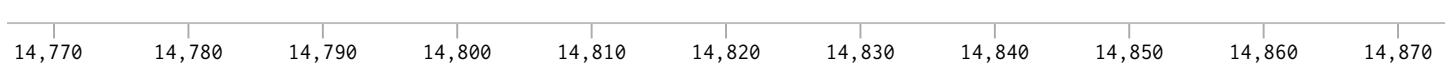
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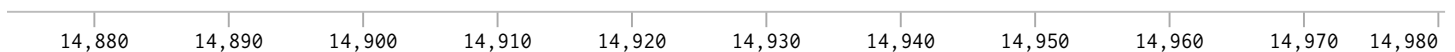


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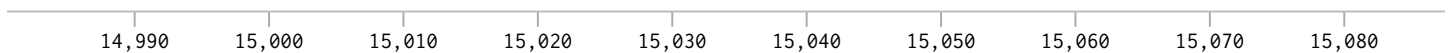
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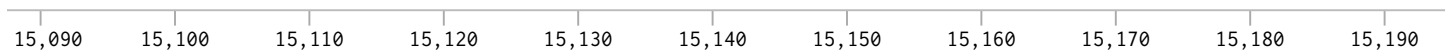
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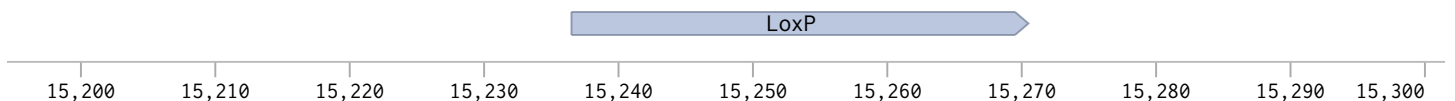
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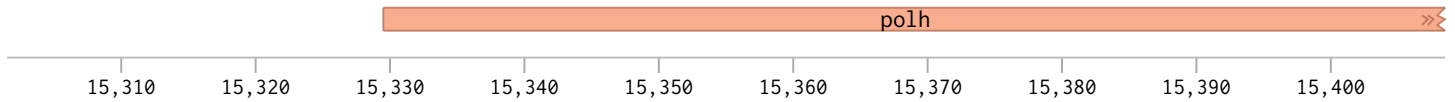
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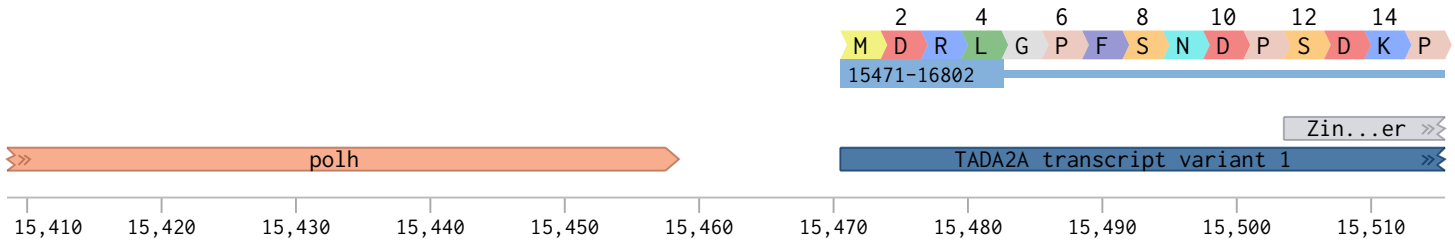
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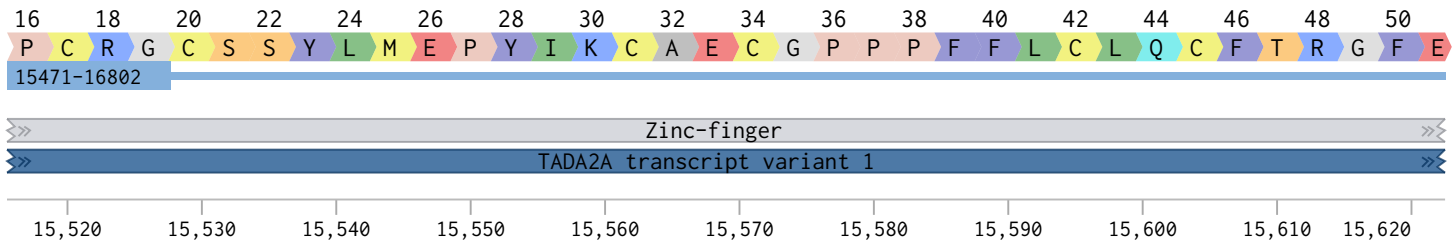
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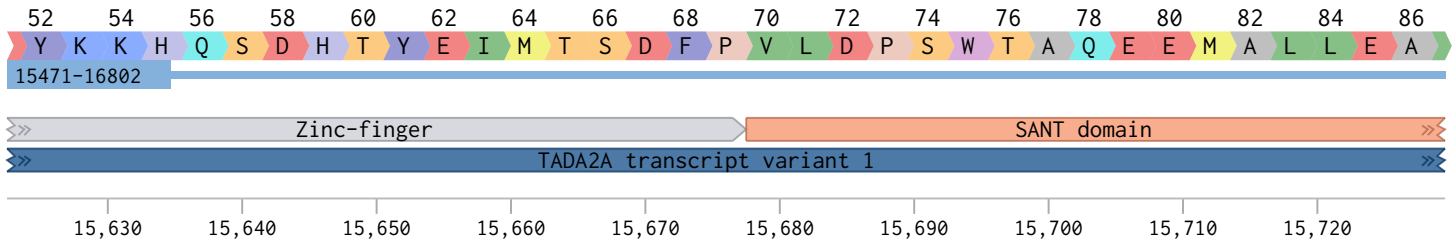
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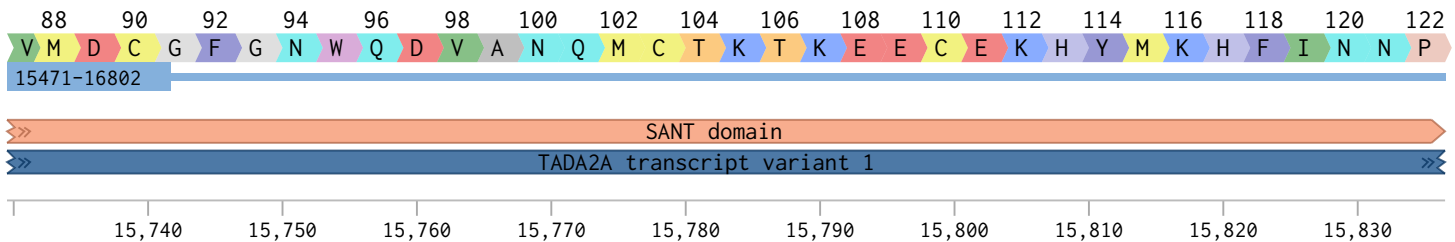
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 15471-16802

» TADA2A transcript variant 1 »

15,840 15,850 15,860 15,870 15,880 15,890 15,900 15,910 15,920 15,930 15,940

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 15471-16802

» TADA2A transcript variant 1 »

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» TADA2A transcript variant 1 »

16,060 16,070 16,080 16,090 16,100 16,110 16,120 16,130 16,140 16,150

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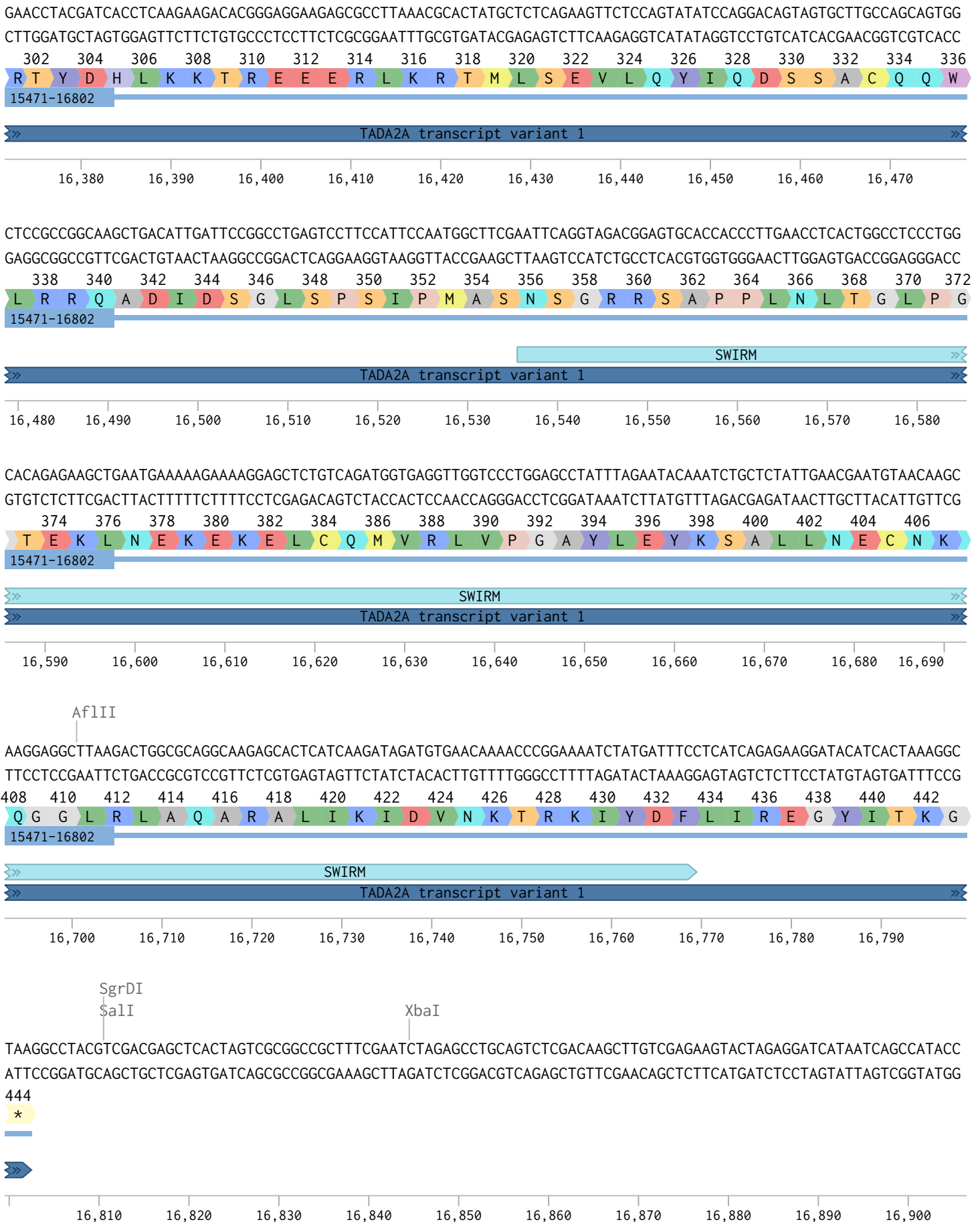
» TADA2A transcript variant 1 »

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» TADA2A transcript variant 1 »

16,270 16,280 16,290 16,300 16,310 16,320 16,330 16,340 16,350 16,360 16,370





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>> CmR CDS >>

17,770 17,780 17,790 17,800 17,810 17,820 17,830 17,840 17,850 17,860

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>> CmR CDS >>

17,880 17,890 17,900 17,910 17,920 17,930 17,940 17,950 17,960 17,970

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>> CmR CDS >>

17,980 17,990 18,000 18,010 18,020 18,030 18,040 18,050 18,060 18,070 18,080

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>> CmR CDS

18,090 18,100 18,110 18,120 18,130 18,140 18,150 18,160 18,170 18,180 18,190

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18,300 18,310 18,320 18,330 18,340 18,350 18,360 18,370 18,380 18,390 18,400

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R6K gamma...n origin <<

18,410 18,420 18,430 18,440 18,450 18,460 18,470 18,480 18,490 18,500 18,510

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<< R6K gamma ori Replication origin >>

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»» R6K gamma ori Replication origin ««

18,620 18,630 18,640 18,650 18,660 18,670 18,680 18,690 18,700 18,710 18,720

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»» R6K gamma ori Replication origin ««

18,730 18,740 18,750 18,760 18,770 18,780 18,790 18,800 18,810 18,820 18,830

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»» R6K...in ««

18,840 18,850 18,860 18,870 18,880 18,890