



PvuI (7)
SgfI (6) **EcoNI (96)**
1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTCGGCAATTGAACGGGTGCCTA
101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) **HindIII (245)** **Bsu36I (291)**
EcoNI (287)
201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACAGCGCCCGCCGCCCTACCTGAGGGCC
301 GCCATCCACGCCGGTTGAGTCGCGTTTCTGCCGCTCCCGCCTGTGGTGCCTCCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
NaeI (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGTCTTTGTTTCGTTT

KasI (535) **BstEII (555)**
AgeI (552)
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCGCTA CCTGAGATCACCGGTCACCATGGTGTGCTTCCGCCTTCCCGGTTCCGGGCTCAGG
▶ ▶ M V C F R L F P V P G S G

Ppu10I (641)
NsiI (641)
601 GCTCGTTCTGGTCTGCCTAGTCCCTGGGAGCTGTGCGGTCTTATGCATTGGAACCTAATTTGACAGATTGCAAAAATGCCACTTGCCTTTATGCAAAATGG
13▶ L V L V C L V L G A V R S Y A L E L N L T D S E N A T C L Y A K W
701 CAGATGAATTTACAGTACGCTATGAACTACAATAAACTTATAAACTGTAACCATTTTACAGACATGGCACTGTGACATATAATGGAAGCATTGTG
47▶ Q M N F T V R Y E T T N K T Y K T V T I S D H G T V T Y N G S I C

Tth111I (895)
801 GGGATGATCAGAATGGTCCAAAATAGCAGTGCAGTTCGGACCTGGCTTTTCTGGATTGCGAATTTTACCAAGGCAGCATCTACTTATTCAATTGACAG
80▶ G D D Q N G P K I A V Q F G P G F S W I A N F T K A A S T Y S I D S
MscI (983)
901 CGTCTCATTTTCTACAACACTGGTGATAACACAACATTTCTGATGCTGAAGATAAAGGAATCTTACTGTTGATGAACCTTTGGCCATCAGAATTTCCA
113▶ V S F S Y N T G D N T T F P D A E D K G I L T V D E L L A I R I P

HindIII (1082)
BsrGI (1077)
1001 TTGAATGACCTTTTTAGATGCAATAGTTTATCAACTTTGGAAAAGATGATGTTGTCCAACACTACTGGGATGTTCTTTGTACAAGCTTTTGTCCAAAATG
147▶ L N D L F R C N S L S T L E K N D V V Q H Y W D V L V Q A F V Q N
1101 GCACAGTGAGCACAAATGAGTTCCTGTGTGATAAAGACAAAACCTCAACAGTGGCACCACCATACACCACCTGTGCCATCTCCTACTACAACCTAC
180▶ G T V S T N E F L C D K D K T S T V A P T I H T T V P S P T T T P T
1201 TCCAAAGGAAAAACCAGAAGCTGGAACCTATTCAAGTAAATAATGGCAATGATACTTGTCTGCTGGCTACCATGGGCTGCAGCTGAACATCACTCAGGAT
213▶ P K E K P E A G T Y S V N N G N D T C L L A T M G L Q L N I T Q D
1301 AAGTTGCTTCAGTTATTAACATCAACCCCAATAACAACCTCACTCCACAGGCAGCTGCCGTTCTCACACTGCTCTACTTAGACTCAATAGCAGCACCATTA
247▶ K V A S V I N I N P N T T H S T G S C R S H T A L L R L N S S T I

Tth111I (1408)
XbaI (1404)
1401 AGTATCTAGACTTTGTCTTTGCTGTGAAAAATGAAAACCGATTTTATCTGAAGGAAGTGAACATCAGCATGTATTTGGTTAATGGCTCCGTTTTTCAGCAT
280▶ K Y L D F V F A V K N E N R F Y L K E V N I S M Y L V N G S V F S I
1501 TGCAATAACAATCTCAGCTACTGGGATGCCCCCTGGGAAGTCTTATATGTGCAACAAAGACAGACTGTTTCAGTGTCTGGAGCATTTTCAGATAAAT
313▶ A N N N L S Y W D A P L G S S Y M C N K E Q T V S V S G A F Q I N
1601 ACCTTTGATCTAAGGTTTCAGCCTTTCAATGTGACACAAGGAAAGTATTCTACAGTCAAGACTGCAGTGCAGATGACGACAACCTTCTTGTGCCATAG
347▶ T F D L R V Q P F N V T Q G K Y S T A Q D C S A D D D N F L V P I

ScaI (1722)
1701 CGGTGGGAGCTGCCTTGGCAGGAGTACTTATTCTAGTGTGCTGGCTATTTTATTGGTCTCAAGCACCATCATGCTGGATATGAGCAATTTTAGAATCT
380▶ A V G A A L A G V L I L V L L A Y F I G L K H H H A G Y E Q F •

MscI (1812)
NheI (1806)
1801 GCAACCGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTG

HpaI (1944)
1901 ATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAACAACAACAATTGCATTCATTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGA
2001 GGTTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCTAAAATACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTACTGAAATCC
2101 TTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTTAAAGATATAGT

SspI (2279) **Swal (2293)**
2201 TATTTTCCAAGGTTTGAAGTACTCTTCAATTTCTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTTAGTAAAATATTGAGAAATAATTTAAA

EcoO109I (2354)
2301 TACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAAC
2401 AAAGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGGGGGATGAGTTCTCAATGGTGGTTTTGAC
▶ ▶ N R T Y K L P I L E E I T T K V

SacI (2554)
2501 CAGCTTGCCATTCACTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCCTGATGGATCTG
124▶ L K G N M E I L V F C D P A Y D S I L E R C M G C P S V V R I S R

2601 TCCACCTCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAAAGTCCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGA
90 D V E D S Y P H R V A V I T D F D K Q G N S V A S G I A I A E A C V
StuI (2718)

2701 CAGTGACCCTGCCAATGTAGGCCCAATGGACAGCAGAGATGATCTCCCCAGTCTTGGTCCTGATGGCCGCCCGACATGGTGCTTGTTCCTCATA
57 T V R G I Y A E I H V A S I I E G T K T R I A A G V H H K N D E Y
BspHI (2868)

2801 GAGCATGGTGATCTTCTCAGTGGCGACCTCCACAGCTCCAGATCCTGCTGAGAGATGTTGAAGTCTTCATGATGGCCCTCCTATAGTGAGTCGTATTA
24 L M T I K E T A V E V L E L D Q Q S I N F T K M
BbsI (2864)

2901 TACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGATGGCGTCTCCAGCTTATCTGACGGTTCACTAAACGAGCTCTGCTTATATAG
AseI (2926) SacI (2983)

3001 ACCTCCCACGTTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCCTTGATTTACTAGTCAAAAACAACTC
SpeI (3081)

3100 CCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGTAATAG

3200 CGATGACTAATACGTAGATGACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGGGGCCATTTACCGTCATTGACGTCAAT
SnaBI (3209)

3300 AGGGGGCGTACTTGCCATATGATACACTTGATGTACTGCCAAGTGGGCGAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGC
NdeI (3314)

3400 GTTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGGCTGCA
SdaI (3492)

3499 GGTAA TTAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGGCGTTTTTCCATAGGCTCCGCCCCCTGACG
PacI (3500) BspLU11I (3510)

3598 AGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTTCCCTGGAAAGCTCCCTCGTGCGCTCTCC

3698 TGTTCGACCCTGCCGTTACCGGATACCTGTCCGCTTCTCCCTTCGGAAGCGTGGCGCTTCTCATAGCTACGCTGTAGGTATCTCAGTTCGGTG

3798 TAGGTCGTTCCGCTCAAGCTGGGCTGTGTGCACGAACCCCGTTCAGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAA
ApaLI (3824)

3898 GACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTA

3998 CGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACC

4098 GCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTC

4198 AGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCCAATAAAATATCTTTATTTTATTACATCTG
PacI (4240) SwaI (4249) EagI (4260) NotI (4259)

4298 TGTGTTGGTTTTTGTGTGAATCGTAACATAACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAAATAGGCTGTCCCCAGTGAAGTG

4398 CAGTGCCAGAACATTTCTATCGAA