



PvuI (7)
SgfI (6)
MfeI (82) **EcoNI (96)**

1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
 101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203)
HindIII (245) **Bsu36I (291)**

201 GTGAACGTTCTTTTTTCGCAACGGGTTTGGCCGAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACAGCGCCCGCCGCTACCTGAGGCC
 301 GCCATCCACGCGGTTGAGTCGCGTTCTGCCGCTCCCGCCTGTGGTGCCTCCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMI (441) **NaeI (441)**

401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTCTCAACTCTACGTCTTTGTTTCGTTT

NcoI (560)

KasI (535)
BstEII (555)

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCGCTACTCTGAGATCACCGGTCACCATGGTGAATGAATAACAAGAGAATTGTTCTGCTGAGAGG
 1▶ M V N E Y K R I V L L R G

MscI (647) **BsiBI (655)**

601 ACTTGAATGTATCAATAAGCATTATTTAGCTTATTTAAGTCATTGCTGGCCAGAGATTTAAATCTGGAAGAGACAACCAAGAGCAATACACCACGATT
 13▶ L E C I N K H Y F S L F K S L L A R D L N L E R D N Q E Q Y T T I

PvuII (731)

701 CAGATTGCTAACATGATGGAAGAGAAATTTCCAGCTGATTCTGGATTGGGCAACTGATTGAGTTTTGTGAAGAAGTACCAGCTCTTAGAAAAAGAGCTG
 47▶ Q I A N M M E E K F P A D S G L G K L I E F C E E V P A L R K R A

EcoO109I (867)

801 AAATCTTAAAAAGAGAGATCAGAAGTAACAGGAGAAACATCACTGGAAAAAATGGTCAAGAAGCAGGTCCTGCAACACCTACATCAACTACAAGCCA
 80▶ E I L K K E R S E V T G E T S L E K N G Q E A G P A T P T S T T S H
 901 CATGTTAGCATCTGAAAGAGGCGAGACTTCTGCAACCCAGGAAGAGACTTCCACAGCTCAGGCGGGGACTTCCACAGCTCAGGCGGGGACTTCCACAGCT
 113▶ M L A S E R G E T S A T Q E E T S T A Q A G T S T A Q A G T S T A
 1001 CAGGCGGGGACTTCCACAGCCCAGAAAAAGAAAAGTATGAGAGAAAGAGACTGGAGTGAAAAAGAGCAAGGCGGCTAAGGAACAGATCAGCTCCCT
 147▶ Q A G A T S T A Q K R K S M R E E E T G V K K S K A A K E P D Q P P
 1101 GTTGTGAAGAACCACAGCCATGTGCCAGTCACCAATACTCCACAGCTCATCTCGGTTCACTAACATTCTTTCGGCTAAGAACCAAAAAATCAACAAC
 180▶ C C E E P T A M C Q S P I L H S S S S A S S N I L S A K N Q K S Q P
 1201 CCAGAACCAGAACATTCCAGAGGTGCTGTTCTCCACTCAGAGCCCTGACAGTGATGGTGTCTACTGCAACAGACCCGTTTGAATATGAATCACCAGAA
 213▶ Q N Q N I P R G A V L H S E P L T V M V L T A T D P F E Y E S P E

XmnI (1359) **ClaI (1372)**

1301 CATGAAGTAAAGAACATGTTTCATGCTACAGTGCCAGTACAGTGAGCCAGTATTTCCATGTGAAAGTTTTCAACATCGATTTGAAAGAGAAGTTCACAAAAA
 247▶ H E V K N M F H A T V A T V S Q Y F H V K V F N I D L K E K F T K
 1401 ATAATTTTATCACCATATCCAATTACTTTGAGAGCAAAGGCATCTGGAGATCAATGAGACTTCTCTGTGTTAGAGGCTGCTCCTAAACAAATGATTGA
 280▶ N N F I T I S N Y F E S K G I L E I N E T S S V L E A A P K Q M I E

BglII (1541)

1501 AGTGCCCAACTGTATTACAGAAATGCAAAATGCCAGTCCTAAGATCTGTGATATTCAAAGGGTACTTCTGGAACAGTGTCTATGGAGTGTTCACATTA
 313▶ V P N C I T R N A N A S P K I C D I Q K G T S G T V F Y G V F T L
 1601 CACAAGAAAAAGTGAAAACACAGAACACAAGCTATGAAATAAAAGATGGTTCAGGAAGCATAGAAAGTTGTGGGAGTGGACAATGGCACAACATCAACT
 347▶ H K K K V K T Q N T S Y E I K D G S G S I E V V G S G Q W H N I N

BstEII (1794)

1701 GTAAGGAAGGAGATAAGCTCCACCTCTTCTGCTTTACCTGAAAAGAGAAAGAGGACAACCAAAGTTAGTGTGTGGAGACCACAGTTTCGTCAAGGTCAC
 380▶ C K E G D K L H L F C F H L K R E R G Q P K L V C G D H S F V K V T

MscI (1847)

NheI (1841)

1801 CAAGGCTGGGAAAAAAAAGAAGCATCAACTGTCCAGTGAAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAAACCAACTAGAAT
 413▶ K A G K K K E A S T V Q •

HpaI (1979) **MfeI (1990)**

1901 GCAGTAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAACAAGTTAACAACAACAAATTGCATT

EcoRI (2075)

2001 CATTATGTTTCAGGTTTCAAGGAGGTTGGGAGGTTTTTAAAGCAAGTAAACCTTACAAATGTGGTATGGAATTCTAAAATACAGCATAGCAAA
 2101 ACTTTAACCTCCAATCAAGCCTCTACTTGAATCCTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGA
 2201 GCCTCACCTTCTTTCATGGAGTTAAGATATAGTGATTTTCCCAAGGTTTGAAGTACTCTTCAATTTCTTTATGTTTAAATGCACTGACCTCCACAT

SspI (2314)
EcoO109I (2389)

2301 TCCCTTTTGTAGTAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCAT
 2401 AATATCCCCAGTTTGTAGTTGGACTTAGGGAACAAAGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTAC
 141▶ • N R T Y

SacI (2589)

2501 TTGAGGGGATGAGTTCTCAATGGTGGTTTTGACCAGCTTGCCATTCACTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGC
 135▶ K L P I L E E I T T K V L K G N M E I L V F C D P A Y D S I L E R C

BstXI (2618)
 2601 ACATGCCACAGGGGCTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCCTTCTGCCGTTGCT
 102 M G C P S V V R I S R D V E D S Y P H R V A V I T D F D K Q G N S

StuI (2753)
Eco147I (2753)
 2701 CACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGTCCTG
 69 V A S G I A I A E A C V T V R G I Y A E I H V A S I I E G T K T R

XmnI (2895)
 2801 ATGGCCGCCCGACATGGTGCTTGTGCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGG
 35 I A A G V H H K N D E Y L M T I K E T A V E V L E L D Q Q S I N F T

BspHI (2903)
VspI (2961)
AseI (2961)
 2901 TCTTCATGATGGCCCTCTATAGTGAGTCGATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGATGGCGTCTCCAGCTT
 2 K M

SacI (3018)
 3000 ATCTGACGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTG

SpeI (3116)
 3100 GAAAGTCCCCTTGATTTACTAGTCAAAAACAAACTCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCCAT

SnaBI (3244)
Eco105I (3244)
 3199 TGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGGCATA

NdeI (3349)
 3299 ATGCCAGGCGGGCCATTTACCGTCAATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCGAGTTTACCGTAAATAC
 3399 TCCACCCATTGACGTCAATGAAAGTCCCTATTGGCGTACTATGGGAACATACGTCAATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTGAGCCAG

PstI (3528)
SdaI (3527)**PaeI (3535)**
 3499 GCGGGCCATTTACCGTAAGTTATGTAACGCTGCGAGGTTAA TTAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGGCCGCGT
 3597 TGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCA
 3697 GCGTTTTCCCTGGAAGCTCCCTCGTGCCTCTCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGGAAGCGTGGCGCTT

ApaLI (3859)
 3797 TCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTGCTTCCGCTCAAGCTGGGCTGTGTGCACGAACCCCGTTACGCCGACCGCTGCGCCT
 3897 TATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACAGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGG
 3997 CGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAA
 4097 AGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAG

PacI (4275)
EagI (4295)
NotI (4294)
 4197 AAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAATTAACATTTAAATC AGC

4297 GGCCGAATAAAATATCTTTATTTTATTACATCTGTGTGTTGTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAAACAAAACGAAACAAA
 4397 ACAAACCTAGCAAATAGGCTGTCCCAAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA