



PvuI (7)
SgfI (6) 1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
MfeI (82) EcoNI (96)

101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGCTGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGGCCGAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACAGCGCCCGCCGCTACCTGAGGCC
EcoNI (287) **Bsu36I (291)**

301 GCCATCCACGCCGGTTGAGTCGCGTTCTGCCGCTCCCGCTGTGGTGCTCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGCTTTTGTTCGTTT

NgoMIV (441)

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCCTACCTGAGATCACCGGTCATCATGAACAAGCACCCCTGGAAGAACCAGCTGAGTGAAT
AgeI (552) 1 M N K H P W K N Q L S E M
BspHI (560)

601 GGTGCAGCCAGTGGTGGCCAGCAGAGGACCAGGACATGCTGGTGAAGAATCTTCTCTGGGGAAGCCTGCAATGCTACATCTGCCTTCAGAGCAGGGT
13 V Q P S G G P A E D Q D M L G E E S S L G K P A M L H L P S E Q G

701 ACTCTGAGACCCCTCCAGCGCTGCCTGGAAGAGAATCAAGAGCTCCGAGACGCTATCCGGCAGAGCAATCAGATGCTGAGGGAACGCTGTGAGGAGCTGC
47 T P E T L Q R C L E E N Q E L R D A I R Q S N Q M L R E R C E E L

Eco47III (716)

801 TGCATTTCCAGGTGAGCCAGCGGAGGAGAAGGAGTTCCCTTATGTGCAAATTCAGGAAGCCCGAAGCTGGTGGAGAGACTGAGCTTGAGAAGCTTGA
80 L H F Q V S Q R E E K E F L M C K F Q E A R K L V E R L S L E K L D
901 TCTTCGAGTCCAGAGGGAACAGGCCTTAAAGGAGTTGGAGCAACTGAAGAAATGCAACAGCAGATGGCTGAGGACAAGGCCTCTGTGAAAGCTCAGGTG
113 L R S Q R E Q A L K E L E Q L K K C Q Q Q M A E D K A S V K A Q V
1001 ACATCATTGCTCGGAGAAGTCCAGGAGAGCCAGAGCCGTTTGGAGGCTGCCACCAAGGATCGGCAAGCTTTAGAGGGAAGGATTCCAGCAGTTAGTGAGC
147 T S L L G E L Q E S Q S R L E A A T K D R Q A L E G R I R A V S E

XmnI (828)

1101 AGGTCAGACAGCTGGAGAGTGAGCGGGAGGTGTACAGCAGCAGCACAGCGTCCAGGTGGACCAGCTGCGTATGCAGAACCAGAGCGTGGAGGCTGCCTT
180 Q V R Q L E S E R E V L Q Q Q H S V Q V D Q L R M Q N Q S V E A A L

BsrBI (1120)

1201 GCGAATGGAGCGGCGAGGTGCTTCAGAGGAGAAGCGGAAGCTGGCTCAGTTGACAGGCAGCCTATCACCAAGCTCTTCCAAGACTACGACAGCCACATTAAG
213 R M E R Q A A S E E K R K L A Q L Q A A Y H Q L F Q D Y D S H I K

BsrBI (1207) **SapI (1269)**

1301 AGCAGCAAGGGATGCAGCTGGAAGATCTGAGGCAACAGCTCCAGCAAGCTGAGGAGGCCCTGGTAGCCAAACAGGAATTGATTGATAAGCTGAAAGAGG
247 S S K G M Q L E D L R Q Q L Q Q A E E A L V A K Q E L I D K L K E

SphI (1310) **BglIII (1323)** **EcoO109I (1355)**

1401 AGGCTGAGCAGCACAAGATTGTGATGGAGACTGTGCCAGTCTTGAAGGCCAGCGGATATCTACAAGGCTGACTTCCAAGCTGAGAGGCATGCCCGGGA
280 E A E Q H K I V M E T V P V L K A Q A D I Y K A D F Q A E R H A R E

EcoRV (1456) **XmaI (1493)**

1501 GAAGCTGGTGGAGAAGAAGGAGTATTTGCAGGAGCAGCTGGAGCAGCTGCAGCGCGAGTTCAACAAGCTGAAAGTTGGCTGCCATGAGTCAGCCAGGATT
313 K L V E K K E Y L Q E Q L E Q L Q R E F N K L K V G C H E S A R I
1601 GAGGATATGAGGAAGCGGCATGTAGAGACTCCCGAGCTCCTTTACTCCCTGCTCCAGCTCACCCTCTTTTATTTGGCCTTGTTCAACCAGCGGAGGA
347 E D M R K R H V E T P Q P P L L P A P A H H S F H L A L S N Q R R

PstI (1546)

1701 GCCCTCTGAAGAACCCTCTGACTTCTGTTGTCCGAAGTGCCAGTATCAGGCTCCTGATATGGACACTCTACAGATACATGTCATGGAGTGCATAGAGTA
380 S P P E E P P D F C C P K C Q Y Q A P D M D T L Q I H V M E C I E •

MscI (1815)

1801 GGAGCAGCAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTAAAAAATGCTTTATTTGTGAAATTT
413

NheI (1809)

1901 GTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAACCAATTGCATTATTTATGTTTCAGGTTCCAGGGGAGGTGTG

HpaI (1947) **MfeI (1958)**

2001 GGAGGTTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTTCAAAATACAGCATAGCAAACTTTAACTCCAATCAAGCCTCTACTTGAA
2101 TCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTCATGGAGTTAAGATATA

EcoRI (2043)

2201 GTGTATTTTCCAAGGTTTGAAGTAGCTCTTCAATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTGTAGTAAATATTCAGAAATAATTT

SapI (2225) **SspI (2282)** **SwaI (2296)**

2301 AAATACATCATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTGTAGTGTGGACTTAGGG

2401 AACAAAGGAACCTTAAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTCGGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTT
141 • N R T Y K L P I L E E I T T K

BstXI (2586)

2501 GACCAGCTTGCCATTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCTGATGGAT
125 V 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

2601 CTGTCCACCTCATCAGAGTAGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCAC
91 R 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
2701 AGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGCTTGTGTCTC
58 V 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

BbsI (2867)
XmnI (2863)

2801 ATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGGTGGCCCTCCTATAGTGAGTCGTA
25 Y L M T I K E T A V E V L E L D Q Q S I N F T K M

AseI (2929)

2901 TTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTACTAAACGAGCTCTGCTTATA

SpeI (3084)

3001 TAGACCTCCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAAACAAC
3101 TCCATTGACGTCAATGGGGTGGAGACTTGGAAATCCCGTGAGTCAAACCGTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAAT

SnaBI (3212)

3201 AGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCACTGACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCA

NdeI (3317)

3301 ATAGGGGGCGTACTTGGCATATGATACACTTGTACTGCCAAGTGGGCGAGTTTACCCTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTG

PstI (3496)
SdaI (3495)

3401 GCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTGAGCCAGGCGGGCCATTTACCCTAAGTTATGTAACGCCTGC

PacI (3503) **BspLU11I (3513)**

3501 AAGTTAATAAGAACATGTGAGCAAAAGCCAGCAAAAGCCAGGAACCGTAAAAAGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACG
3601 AGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTTCCCTGGAAAGCTCCCTCGTGCCTCTCC
3701 TGTTCGACCCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTACGCTGTAGGTATCTCAGTTCGGTG

ApaLI (3827)

3801 TAGGTCGTTGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTGAGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAA
3901 GACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTA
4001 CGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAAACAAACCC
4101 GCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTC

EagI (4263)
PacI (4243) **Swal (4252)** **NotI (4262)**

4201 AGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCCAATAAAATATCTTTATTTTATTACATCTG
4301 TGTGTTGGTTTTTGTGTGAATCGTAACATAACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAAATAGGCTGTCCCCAGTGAAGTG
4401 CAGGTGCCAGAACATTTCTATCGAA