



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

101 GAGAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245)
PvuII (239) 201 GTGAACGTTCTTTTTCGCAACGGGTTTGGCCGAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACCGCGCCCGCCGCTACCTGAGGCC
EcoNI (287) **Bsu36I (291)**

301 GCCATCCACGCGGTTGAGTCGCGTTCTGCCGCTCCCGCTGTGGTGCTCCTGAACTGCGTCCGCGCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441) 401 GGGCCTTTGTCCGGCGCTCCTTGGAGCCTACCTAGACTCAGCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGCTTTTGTTCGTTT

NcoI (560)
BstEII (555)
AgeI (552) 501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGCGCCTACCTGAGATCACCGGTACCATTGGGCACACACGGAGGCAGGAACATCACCATCCAA
1 M G H T R R Q G T S P S K
BbrPI (670)

601 GTGTCATACCTCAATTTCTTTCAGCTCTTGGTGTGGCTGGTCTTCTCACTTCTGTTCAAGTGTATCCACGTGACCAAGGAAGTAAAGAAGTGGCA
13 C P Y L N F F Q L L V L A G L S H F C S G V I H V T K E V K E V A

SapI (730) 701 ACCTGTCTGTGGTGCACATGTTTCTGTTGAAGAGCTGGCACAACCTCGCATCTACTGGCAAAAGGAGAAGAAAATGGTGTGACTATGATGCTCTGGG
47 T L S C G H N V S V E E L A Q T R I Y W Q K E K K M V L T M M S G

EcoRV (841) **XcmI (860)** 801 ACATGAATATATGGCCCGAGTACAAGAACCGGACCATCTTGTATCACTAATAACCTCTCCATTGTGATCCTGGCTCTGCGCCCATCTGACGAGGGCAC
80 D M N I W P E Y K N R T I F D I T N N L S I V I L A L R P S D E G T
901 ATACGAGTGTGTTGTTCTGAAGTATGAAAAAGACGCTTCAAGCGGGAACCTGGCTGAAGTACGTTATCAGTCAAAGCTGACTTCCCTACACCTAGT
113 Y E C V V L K Y E K D A F K R E H L A E V T L S V K A D F P T P S

SspI (1027) 1001 ATATCTGACTTTGAAATCCAACCTCTAATATTAGAAGGATAATTTGCTCAACCTCTGGAGGTTTTCCAGAGCCTCACCTCTCTGGTTGGAAAATGGAG
147 I S D F E I P T S N I R R I I C S T S G G F P E P H L S W L E N G
1101 AAGAAATTAATGCCATCAACACAACAGTTTCCCAAGATCCTGAACTGAGCTCTATGCTGTTAGCAGCAAACCTGACTTCAATATGACAACCAACCACAG
180 E E L N A I N T T V S Q D P E T E L Y A V S S K L D F N M T T N H S
1201 CTTATGTGTCTCATCAAGTATGGACATTTAAGAGTGAATCAGACCTTCAACTGGAATACAACCAAGCAAGAGCATTTCCTGATAACCTGCTCCCATCC
213 F M C L I K Y G H L R V N Q T F N W N T T K Q E H F P D N L L P S
1301 TGGGCCATTACCTTAATCTCAGTAAATGGAATTTTGTGATATGCTGCCTGACCTACTGCTTGGCCCAAGATGCAGAGAGAGAAGGAGGAATGAGAGAT
247 W A I T L I S V N G I F V I C C L T Y C F A P R C R E R R R N E R

NheI (1453)
EcoRI (1447) **MscI (1459)** 1401 TGAGAAGGGAAAGTGTACGCCCTGTATAACAGTGTCCGAGAAGCAAGAAATTCGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAAC
280 L R R E S V R P V •

HpaI (1591) 1501 CACAAC TAGAATGCAGTGA AAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAAGTTAACAAC

MfeI (1602) **EcoRI (1687)** 1601 AACCAATTGCATTCATTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAAACCTCTACAAATGGATGGAATTC TAAATA
1701 CAGCATAGCAAACCTTTAACCTCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCAT

SapI (1869) 1801 TAGCTGTTTGAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGATTTTCCCAAGGTTTGAAGTACTGCTCTTCAATTTCTTATGTTTAAATGCACT

SspI (1926) **SwaI (1940)** 1901 GACCTCCACATTCCTTTTATGAAAATATTCAGAAAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTC

EcoO109I (2001) 2001 AAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGACTTAGGGAACAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAG
141 •

2101 TTCCTGGTACTTGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGA
139 N R T Y 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

BstXI (2230) 2201 TGAGCTCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAAAGTCCTT
106 L E R C 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

StuI (2365) 2301 CTGCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCAGCAGACAGTACCCTGCCAATGTAGGCTCAATGTGGACAGCAGAGATGATCTCCCA
73 Q G N S 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
2401 GTCTTGGTCTGATGGCCCGCCGACATGGTGGCTTGTTCCTCATAGAGCATGGTATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAG
39 T K T R 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

BbsI (2511) **XmnI (2507)** **AseI (2573)** 2501 AGATGTTGAAGGTTCTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGC
6 I N F T K M

2601 GTCTCCAGCTTATCTGACGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTT

2701 ACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAAACAACTCCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTAT

SpeI (2728)

2801 CCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCCATAAGGTCATGT

SnaBI (2856)

2901 ACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCAGTTTA

NdeI (2961)

3001 CCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTACTATGGGAACATACGTCATTATTGACGTCAATGGGGCGGGGTCGTTGGGC

3101 GGTCAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCTGCAGGTTAATTAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAA

PacI (3147)
PstI (3140)
SdaI (3139) **BspLU11I (3157)**

3201 GGCCGCTTGTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGGAAACCCGACAGGACTATAA

3301 AGATACCAGGCGTTTTCCCTGGAAGCTCCCTCGTGCGCTCTCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCG

3401 TGGCGTTTTCTCATAGCTCAGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTAGCCCGACCG

ApaLI (3471)

3501 CTGCGCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGG

3601 TATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCT

3701 TCGGAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAACCCAGCTGGTAGCGGTGGTTTTTTTGTGCAAGCAGCAGATTACGCGCAGAAAAAAGG

3801 ATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGGAAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTT

PacI (3887) **SwaI (3896)**

3901 AAATC AGCGGCCGAATAAAATATCTTTATTTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAAAC

EagI (3907)
NotI (3906)

4001 GAAACAAAACAACTAGCAAATAGGCTGTCCCAGTGAAGTGCAGGTGCCAGAACATTTCTCTATCGAA