



PvuI (7)
SgfI (6)

1 GGATCTGCGATCCGCTCCGGTCCCGTCAGTGGGCAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTAGAGAAGGTGGCGCGGGTAA

MfeI (82) **EcoNI (96)**

121 ACTGGGAAAGTGATGTCGTACTGGCTCCGCCTTTTCCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCGTGAACGTTCTTTTCGCAACGGGTTTGGCCGCAACAAC

Psp1406I (203) **PvuII (239)**

HindIII (245) **Bsu36I (291)**
EcoNI (287)

241 AGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACGCGCCCGCCGCTACCTGAGGCCGCATCCACGCCGTTGAGTCGCGTTCGCCGCTCCCGCTGTGGTGCCTCCTGAAC TG

NgoMIV (441)

361 CGTCCGCCGCTAGGTAAGTTAAAGCTCAGGTCGAGACCGGGCTTTGTCCGGCTCCCTTGGAGCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCTGCTTGCTCAAC

NcoI (560)
BstEII (555)

481 TCTACGCTTTTGTTCGTTTTCTGTTCTGCGCCGTACAGATCCAAGCTGTGACCGCCGCTACTGAGATCACCGTACCATGGACCCAGATGCACCATGGGCTTGGCAATCCTTAT

AgeI (552) **XcmI (569)** **NcoI (578)**
1 M D P R C T M G L A I L I

HindIII (647)

601 CTTTGTGACAGTCTGCTGATCTCAGATGCTGTTCCGTGGAGACGCAAGCTTATTTCAATGGGACTGCATATCTGCCGTGCCATTTACAAAAGCTCAAAAATAAGCTGAGTGAAGT

133 F V T V L L I S D A V S V E T Q A Y F N G T A Y L P C P F T K A Q N I S L S E L

721 GGTAGTATTTGGCAGGACCAGCAAAAGTTGGTCTGTACGAGCACTATTTGGGCACAGAGAACTTGATAGTGAATGCCAAGTACCTGGGCGCACGAGCTTTGACAGGAACAATG

53 V V F W Q D Q Q K L V L Y E H Y L G T E K L D S V N A K Y L G R T S F D R N N W

841 GACTCTACGACTTACAATGTTGATCAAGGACATGGGCTGTATGATGTTTATACAAAAAAGCCACCCACAGGATCAATTATCTCCAACAGACATTAAACAGAAGTGTGAGTGA

93 T L R L H N V Q I K D M G S Y D C F I Q K K P P T G S I I L Q T L T E L S V I

BstEII (1045)

961 CGCCAACTTCAAGTGAACCTGAAATAAACTGGCTCAGAATGTAACAGGAAATTTGGCATAAATTTGACCTGCAGCTTAAGCAAGGTACCCGAAACCTAAGAAGATGATTTTCTGAT

133 A N F S E P E I K L A Q N V T G N S G I N L T C T S K Q G H P K P K K M Y F L I

EcoRV (1116) **NdeI (1192)**

1081 AACTAATCAACTAATGAGTATGGTATAACATGCAGATATCACAGATAATGTACAGAACTGTTGAGTATCTCCAACAGCCTCTCTTTTATTCCCGGATGGTGTGGCATATGAC

173 T N S T N E Y G D N M Q I S Q D N V T E L F S I S N S L S L S F P D G V W H M T

1201 CGTTGTGTGTCTTGGAAACGGAGTCAATGAAGATTTCTCTCAAACCTCTCAATTTCACTCAAGAGTTTCCATCTCTCAAACGTATTGGAAGGAGATTACAGCTTCAGTTACTGTGGC

213 V V C V L E T E S M K I S S K P L N F T Q E F P S P Q T Y W K E I T A S V T V A

BsrBI (1405)

1321 CCTCCTCTGTGATGCTCATCATTGTATGTACAAAGCCGAATCAGCTAGCAGGCCAGCAACACAGCCTTAAGTTAGAGCGGGATAGTAACGCTGACAGAGAGACTATCAA

253 L L L V M L L I I V C H K K P N Q P S R P S N T A S K L E R D S N A D R E T I N

NheI (1514)

1441 CCTGAAGGAACCTGAACCCAAATGCTTCAGCAAAACCAATGCAGAGTGAAGGCAGTGAAGGCTGAGAGCCTGAGGAAAGCTAGTGGCCAGACATGATAAGATACATTGATGAGTTTGACAAA

293 L K E L E P Q I A S A K P N A E •

Bsu36I (1504) **MscI (1520)**

1561 CCACAAC TAGAATGCAGTGAAGAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAATTGCATTCATTTTA

HpaI (1652) **MfeI (1663)**

EcoRI (1748)

1681 TGTTCAGGTTTCAGGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAATGTGGTATGGAATCTAAAATACAGCATAGCAAACTTTAACTCCAATCAAGCCTCTAC

1801 TTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTCTTTTATGGAGTTAAGATATAGTGTATTTCCCAAG

SapI (1930) **SspI (1987)** **SwaI (2001)**

1921 GTTTGAAC TAGCTCTTCATTTCTTTATGTTTAAATGCACTGACCTCCACATTCCTTTTATGTAATAATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTA

EcoO109I (2062)

2041 TTAGGCAGAACCCAGATGCTCAAGGCCCTCATAATATCCCCAGTTAGTAGTTGGACTTAGGGAACAAGGAACCTTAAATAGAATTTGGACAGCAAGAAAGCGAGCTTCTAGCTTTA

141 •

SacI (2262)

2161 GTTCTGGTGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCATTATCTCAATGAGCACAAAGCAGTCAAGGATGATGAGATGAGCTCTCTGCATGCC

140 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 L E R C M G

2281 ACAGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCAATGGCAATGGCTTC

100 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 V A S G I A I A E

StuI (2426)

2401 AGCAGACAGAGTACCCCTGCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCAGTCTTGGTCTGATGGCCGCCGACATGGTGTCTGTTGCTCATAGAGCATGGTGT

60 A C 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 Y L M T I

BbsI (2572)

XmnI (2568) **AseI (2634)**

2521 CTTCTCAGTGGCGACCTCCACAGCTCCAGATCCTGCTGAGAGATGTTGAAGTCTTCATGTTGGCCCTCTATAGTGAAGTCTATTATACTATGCGGATATACTATGCGGATGATTAAT

20 K E T A V E V L E L D Q Q S I N F T K M

SacI (2691)

2641 TGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTCACTAAACAGAGCTCTGTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGT

SpeI (2789)

2761 TACGACATTTTGAAGTCCCGTTGATTTACTAGTCAAAACAACTCCATTGACGTCAATGGGTGGAGACTTGAATCCCGTGAAGTCAAAACCGCTATCCAGCCATTGATGACT

SnaBI (2917)
 2881 GCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGACTGCGCAAGTAGGAAAGTCCCATAGGTCATGACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGA

NdeI (3022)
 3001 CGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTAAGTCCCAAGTGGGCGAGTTTACCCTAAATACTCCACCATTGACGTCATGAAAGTCCCTATTGGCGTTACTATGGGAA

PaeI (3208)
PstI (3201)
SdaI (3200) **BspLU11I (3218)**
 3121 CATACGTATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCTGCAGGTTAATTAGAACATGTGAGCAAAGGCCAGCA

3241 AAAGGCCAGGAACCGTAAAAAGCCGCGTTGCTGGCGTTTTCCATAGGCTCCGCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATA

3361 AAGATACCAGGCGTTTTCCCTGGAAGCTCCTCGTGCCTCTCTGTTCCGACCCTGCCGTTACCGGATACCTGTCGCGCTTCTCCCTCGGGGAAAGCGTGGCGCTTCTCATAGCTC

ApaLI (3532)
 3481 ACGCTGTAGGTATCTCAGTTCGGTGTAGTTCGTTGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTGACCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCC

3601 GGTAAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGTACTACTAGAAG

3721 AACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAACCACCGCTGGTAGCGGTGTTTTTTGTTGCAAGCAGCA

PaeI (3948) SmaI (3957)
 3841 GATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGCTGACGCTCAGTGAACGAAAACTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATT

EagI (3968)
NotI (3967)
 3961 TAAATCAGCGGCGCAATAAAATATCTTTATTTTATTACATCTGTGTGTTGTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCA

4081 AAATAGGCTGTCCCAGTGAAGTGCAGGTGCCAGAACATTTCTCTATCGAA