



PvuI (7)
SgfI (6) 1 GGATCTGCGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA MfeI (82)

101 GAGAAGGTGGCGGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245)
Psp1406I (203) 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGGCCGAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACAGCGCCCGCCGCCCTACCTGAGGCC PvuII (239) Bsu36I (291)

301 GCCATCCACGCGGTTGAGTGCAGTCTGCCGCTCCCGCCTGTGGTGCTCCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCGGCTCTCCACGCTTGGCTGACCCTGCTTGTCTAACTCTACGCTTTTGTTCGTTT NgoMIV (441)

501 TCTGTTTGTCCGGGTTACAGATCCAAGCTGTGACCGGGCCCTACCTGAGATCACCGGTACCATTGGCAGGTGTCTGTGACATGGCCCTAATTCCTTTTC NcoI (560) BstEII (555) AgeI (552)

1 M A G V C D M A P N F L S
601 CCCATCTGAAGACCAGGCTTGGGTTTGGCCCTGGCAGAGAAGTTGCTTTGAATTGCACAGCTTGGGTGTTCTCTAGGCCCAAGTGTCCCCAGCCATCA EcoO109I (676) XcmI (694)

13 P S E D Q A L G L A L G R E V A L N C T A W V F S R P Q C P Q P S
701 GTGCAGTGGCTGAAAGATGGTCTGGCATTGGGCAATGGAAGCCACTTCAGCCTCCATGAGGACTTCTGGGTGAGCCCAACTTCTCAGAGATTGTGCCA BstXI (797)

47 V Q W L K D G L A L G N G S H F S L H E D F W V S A N F S E I V S
801 GTGCCTGGTGTCAACTTGACCAATGCAGAGGACTATGGAACCTTCCCTGTCTGTCTGGAATGTCAGCTCCCACTTCTTCACTCTTTGGCGAGCTGG SfiI (898)

80 S V L V L N L T N A E D Y G T F T C S V W N V S S H S F T L W R A G
901 CCCTGCTGGCAGTGTGGCTGCAGTACTGGCTTCCCTCCTGGTCTGGTGGTTCTGCTGCTGGTGGCCCTGCTCTATGTTAAGTGTGGCTGAACATGCTG ScaI (921)

113 P A G H V A A V L A S L L V L V V L L L V A L L Y V K C R L N M L
1001 CTTTGGTACCAAGACACTTACGGGAGGTGGAGATGAACGATGGGAAGTTATACGATGCCTACGTGTCCTATAGCGACTGCCAGAGGACCGAAATTTG Acc65I (1004)

147 L W Y Q D T Y G E V E M N D G K L Y D A Y V S Y S D C P E D R K F
1101 TAAATTTTATTCTGAAGCCTCAGTTGGAGCGGGCTCGGGGATACAAACTTCTCCTAGAGGACCGGACCTTTCCTCGCGGGAGCCCTCTGCCGACCT BsrBI (1126)

180 V N F I L K P Q L E R R R G Y K L F L E D R D L L P R A E P S A D L
1201 TTTGGTGAACCTGAGTGCCTGTCGGGCTCATCGTGGTTCTTTCAGATGCCTTCTAAGCGGCCCTGGTGTAGCCAGAGCTTCCGGGAGGGACTGTGC NgoMIV (1259)

213 L V N L S R C R R L I V V L S D A F L S R P W C S Q S F R E G L C
1301 CGCCTACTGGAGCTCACCCGACACCTATCTTCATCACCTTTGAGGGCCAGAGCGTGAGCCCATACACCTGTCTCCGGCTCTCGCCAGCACCCGC DraIII

247 R L L E L T R R P I F I T F E G Q R R E P I H P A L R L L R Q H R
1401 ACCTCGTGACCCTGGTGTCTTGGAAAGCCTGGCTCCGTGACTCCTTCTGATTTTTGGAAAGAGCTACAGCTAGCACTGCCACGGAAGGTGCAGTACAG NheI (1470)

280 H L V T L V L W K P G S V T P S S D F W K E L Q L A L P R K V Q Y R
1501 GCCGGTGGAGGGAGACCCCAACCCGACTTCAGGATGACAAAGATCCCATGTAATCGTGAGAGGACGTGCTGCCAGGGCCGGGCATGGAGTCAGAG 313 P V E G D P Q T R L Q D D K D P M L I V R G R A A Q G R G M E S E

Bsu36I (1612)
BamHI (1602) 1601 CTGGATCCAGACCCTGAGGGAGACCTGGGTGTCCTGGACCTGTCTTTGGGAGCCACCAACTCCACTGCAGGAAACCAGGATCTGCATAGGAGAGAGCC 347 L D P D P E G D L G V R G P V F G E P P T P L Q E T R I C I G E S

ApaLI (1745)
1701 ACGGACGTGAAATGGATGCTCTGACCTCGGCTCTGAAACTACAGTGCACGGACAGACTTCTACTGCCTCGTGTCTGAGGATGATGTGTAGCCCATATC 380 H G S E M D V S D L G S R N Y S A R T D F Y C L V S E D D V •

NheI (1843)
EcoRI (1837)
BstBI (1834)
Bsp119I (1834) 1801 CCAGCAGCCAGACCATGAGATCACGGTGGCAGCTTCGAATTCCTAGCTCGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGC

1901 AGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAACATTGCATTCA HpaI (1977) MfeI (1988)

2001 TTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAATGTGGTATGGAATTCTAAAATACAGCATAGCAAAC EcoRI (2073)

2101 TTTAACCTCAAATCAAGCCTCTACTTGAATCCTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGC

2201 CTCACCTTCTTCATGGAGTTTAAAGATATAGTATTTTCCCAAGTTTGAAGTCTTCTTCTTATGTTTTAAATGCACTGACCTCCACATTC SapI (2255)

2301 CCTTTTTAGTAAAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAATAAATGTTTTTTATTAGGCAGAAATCCAGATGCTCAAGGCCCTTCATAA SspI (2312) SmaI (2326) EcoO109I (2387)

2401 TATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTACTT
141 • N R T Y K

2501 GAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCAC
135 L P I L 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 (2616)

2601 ATGCCACAGGGGCTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTTGCCCCGTTGCTCA
101 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 V

StuI (2751)

2701 CAGCAGACCAATGGCAATGGCTTCAGCACAGACAGTACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGTCTGAT
68 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 I

BbsI (2897)

2801 GGCCGCCCGACATGGTGTCTTGTGCTCATAGAGCATGGTGTCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCTGCTGAGAGATGTTGAAGGTC
35 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

XmnI (2893)

2901 TTCATGGTGGCCCTCCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATC
1 K M

AseI (2959)

3001 TGACGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCACCCTACACGCCTACCGCCATTTGCGTCAATGGGGGGAGTTGTTACGACATTTGGAA

SpeI (3114)

3101 AGTCCCGTTGATTTACTAGTCAAAACAACTCCATTGACGTCAATGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGAT

SnaBI (3242)

3201 GTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGGCATAATGC

NdeI (3347)

3301 CAGGCGGGCATTACCCTCATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGTACTGCAAGTGGGCAGTTTACCCTAAATACTCCA

3401 CCCATTGACGTCAATGAAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCAATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTCAGCCAGGCGG

PacI (3533)

3501 GCCATTTACCGTAAGTTATGTAACGCTGCAGGTTAATTAAAGAACATGTGAGCAAAAGCCAGCAAAAGCCAGGAACCGTAAAAAGCCGCGTTGCTGG
SdaI (3525) BspLU11I (3543)

3601 CGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTT

3701 TCCCCCTGGAAGCTCCCTCGTGCCTCTCTGTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCAT

ApaLI (3857)

3801 AGCTCAGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCAAGCTGGGCTGTGTGCACGAACCCCGTTCCAGCCGACCCTGCGCCTTATCCG

3901 GTAACATCGTCTTGAGTCAACCCGGTAAGACACGACTTATCGCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGC

4001 TACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGGTT

4101 GGTAGCTCTTGATCCGGCAAACAAACCCTGCTGGTAGCGGTGGTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATC

EagI (4293)

4201 CTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCGC
PacI (4273) SmaI (4282) NotI (4292)

4301 AATAAAATATCTTTATTTTTCATTACATCTGTGTGGTTTTTTTGTGTGAATCGTAACATAACGCTCTCCATCAAACAAAACGAAACAAAACAAAC

4401 TAGCAAAATAGGCTGTCCCCAGTCAAGTGCAGGTGCCAGAACATTTCTATCGAA