



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

1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA

101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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

201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACACGCCGCCGCCCTACCTGAGGGC

301 GCCATCCACGCCGGTTGAGTCGCGTTCTGCCGCTCCCGCCTGTGGTGCCTCCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

KasI (535)
AgeI (552)
NcoI (560)
BstXI (560)
EcoRI (577)
StuI (590)

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCGCTACCTGAGATCACCGGTCCACATGGCAATGGTATCAGAATTCCTCAAGCAGGCCTGGTT

1▶ M A M V S E F L K Q A W F

XmnI (619)

601 TATTGAAATGAAGAGCAGGAATATGTTCAAAGTGTGAAGTATCAAAGGTGGTCCCGATCAGCGGTGAGCCCTATCCTACCTTCAATCCATCCTCG

13▶ I E N E E Q E Y V Q T V K S S K G G P G S A V S P Y P T F N P S S

701 GATGTCGTCGCTTGATAAGGCATAATGTTAAAGTGTGGATGAAGCAACCATCATTGACATTCTAACTAAGCGAAACAATGCACAGCGTCAACAGA

47▶ D V A A L H K A I M V K G V D E A T I I D I L T K R N N A Q R Q Q

801 TCAAAGCAGCATATCTCCAGAAACAGGAAAGCCCTGGATGAAACACTGAAGAAAGCCCTACAGGTACCTTGAGGAGTTGTTTGGCTCTGCTAA

80▶ I K A A Y L Q E T G K P L D E T L K K A L T G H L E E V V L A L L K

901 AACTCCAGCGCAATTTGATGCTGATGAACCTTCGTGCTGCCATGAAGGGCCTTGAAGTATGAAGATACTCTAATTGAGATTTGGCATCAAGAACTAAC

113▶ T P A Q F D A D E L R A A M K G L G T D E D T L I E I L A S R T N

MscI (1052)

1001 AAAGAAATCAGAGACATTAACAGGGTCTACAGAGAGGAACTGAAGAGAGATCTGGCCAAAGACATAACCTCAGACACATCTGGAGATTTTCGGAACGCTT

147▶ K E I R D I N R V Y R E E L K R D L A K D I T S D T S G D F R N A

BglIII (1047)

1101 TGCTTTCTTTGTAAGGGTACCGATCTGAGGACTTTGGTGTGAATGAAGACTTGGCTGATTGAGTCCAGGGCCTTGTATGAAGCAGGAGAAAGGAG

180▶ L L S L A K G D R S E D F G V N E D L A D S D A R A L Y E A G E R R

1201 AAAGGGGACAGAGTAAACGTGTTCAATACCATCCTTACCACCAAGCTATCCACAACCTTCGACAGTGTTCAGAAATACACCAAGTACAGTAAGCAT

213▶ K G T D V N V F N T I L T T R S Y P Q L R R V F Q K Y T K Y S K H

1301 GACATGAACAAAGTTCTGGACCTGGAGTTGAAAGGTGACATTGAGAAATGCCTCACAGTATCGTGAAGTGGCCACAAGCAACCAGCTTTCTTTGCAG

247▶ D M N K V L D L E L K G D I E K C L T A I V K C A T S K P A F F A

HindIII (1402)
EcoRV (1489)

1401 AGAAGCTTCATCAAGCCATGAAAGGTGTTGAACTCGCCATAAGGCATTGATCAGGATTATGGTTTCCCGTTCTGAAATTGACATGAATGATATCAAAGC

280▶ E K L H Q A M K G V G T R H K A L I R I M V S R S E I D M N D I K A

1501 ATTCTATCAGAAGATGTATGGTATCTCCCTTTGCCAAGCCATCCTGGATGAAACCAAAGGAGATTATGAGAAAATCCTGGTGGCTCTTTGTGGAGGAAAC

313▶ F Y Q K M Y G I S L C Q A I L D E T K G D Y E K I L V A L C G G N

MscI (1640)

NheI (1634)

1601 TAAACATTCCTTGATGGTCTCAAGCTATGATCAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAAATGCAGTGA

347▶ •

HpaI (1772)
MfeI (1783)

1701 AAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAACACAACAATTGCATTCAATTTTA

EcoRI (1868)

1801 TGTTTCAGGTTACAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATCTAAATACAGCATAGCAAACTTTAA

1901 CCTCCAAATCAAGCCTCTACTTGAATCCTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCAC

2001 CTTCTTTCATGGAGTTTAAAGATATAGTGTATTTCCCAAGGTTTGAAGTACTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTT

SspI (2107)
SwaI (2121)

2101 TTAGTAAAATATTAGAAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAAATCCAGATGCTCAAGGCCCTTCATAATATCC

2201 CCCAGTTTAGTAGTTGACTTAGGGAACAAAGGAACCTTAAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGAGGG

141▶ • N R T Y K L P

SacI (2382)

2301 GGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCAATGAGCACAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCC

133▶ 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

BstXI (2411)

2401 ACAGGGGCTGACCACCCTGATGGATCTGTCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTTGCCCCGTTGCTCAGCA

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

StuI (2546)

2501 GACCCAATGGCAATGGCTTCCAGCACAGACAGTACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGTCTGATGGCCG

66▶ 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 A A

2601 CCCCACATGGTGCTTGTTCCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGCTTCAT
33 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 K M

AseI (2754)

2701 GATGGCCCTCCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACG
←

SacI (2811)

2801 GTTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTCGCTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCC

SpeI (2909)

2901 CGTTGATTTACTAGTCAAAACAAACTCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCGTGAGTCAAACCGTATCCACGCCATTGATGACT

SnaBI (3037)

3001 GCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGC

NdeI (3142)

3101 GGGCATTACCCTCATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCCAT

3201 TGACGTCAATGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCAATTATTGACGTCAATGGGGGGGGTCTTGGGCGGTGAGCCAGGCGGGCCAT

PaeI (3328)

PstI (3321)

SdaI (3320)

BspLU11I (3338)

3301 TTACCGTAAGTTATGTAACGCTGCAGGTTAATTAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGGCGTTT

3401 TTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAGATACCAGGCGTTTCCCC

3501 CTGGAAGCTCCCTCGTGCCTCTCCTGTTCCGACCCTGCCGCTTACCGGATACCTGTCCGCCTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCTC

ApaLI (3652)

3601 ACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCGCTTCAGCCGACCGCTGCGCCTTATCCGGTAAC

3701 TATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGCGGTGCTACAG

3801 AGTTCCTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAG

3901 CTCTTGATCCGGCAAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTG

EagI (4088)

PaeI (4068) SmaI (4077)

NotI (4087)

4001 ATCTTTTCTACGGGGTCTGACGCTCAGTGGAAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGCAATAA

4101 AATATCTTTATTTTACATCTGTGTGTTGGTTTTTGTGTGAATCGTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAAACTAGCA

4201 AAATAGGCTGTCCCAGTGCAAGTGCAAGTGCCAGAACATTTCTATCGAA