



PvuI (7)
SgfI (6)

1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGCAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA

101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203)

201 GTGAACGTTCTTTTTTCGCAACGGGTTTGGCCGACAGACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACACGCCGCCGCCCTACCTGAGGCC

301 GCCATCCACGCCGGTTGAGTGCAGTTCGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

HindIII (245)

401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTAACTCTACGCTTTTGTTCGTTT

Bsu36I (291)
EcoNI (287)

501 TCTGTTCTGCGCGCTTACAGATCCAAGCTGTGACCGCGCGCTACCTGAGATCACCGGTCATCATGAATAGGCACCTCTGGAAGAGCCAACCTGTGTGAGAT

601 GGTGCAGCCAGTGGTGGCCCGCAGCAGATCAGGACGTAAGTCTCCTCTGGGAAAGCCAGCCATGCTGCACCTGCCTTCAGAACAGGGC

130▶ V Q P S G G P A A D Q D V L G E E S P L G K P A M L H L P S E Q G

AgeI (552)
BspHI (560)

701 GCTCCTGAGACCTCCAGCGCTGCTGGAGGAGAATCAAGAGCTCCGAGATGCCATCCGGCAGAGCAACCAGATTCTGCGGGAGCGCTGCGAGGAGCTTC

47▶ A P E T L Q R C L E E N Q E L R D A I R Q S N Q I L R E R C E E L

Eco47III (716)
Eco47III (782)

801 TGCATTTCCAAGCCAGCCAGAGGGAGGAGAAGGAGTTCCTCATGTGCAAGTTCAGGAGGCCAGGAACTGGTGGAGAGACTCGGCCTGGAGAAGCTCGA

80▶ L H F Q A S Q R E E K E F L M C K F Q E A R K L V E R L G L E K L D

XmnI (828)
XcmI (860)
BstXI (860)

901 TCTGAAGAGGCAGAAGGAGCAGGCTCTGCGGGAGTGGAGCACCTGAAGAGATGCCAGCAGCAGATGGCTGAGGACAAGGCCTCTGTGAAAGCCAGGTG

113▶ L K R Q K E Q A L R E V E H L K R C Q Q Q M A E D K A S V K A Q V

BstAPI (918)
StuI (977)

1001 ACGTCCTTGTCTGGGAGCTGCAGGAGAGCCAGAGTGCCTTGGAGGCTGCCACTAAGGAATGCCAGGCTCTGGAGGGTCCGGCCGGCCGCGCCAGCGAGC

147▶ T S L L G E L Q E S Q S R L E A A T K E C Q A L E G R A R A A S E

DraIII (1144)
BstAPI (1143)
SphI (1169)
FspI (1166)

1101 AGGCGCGCAGCTGGAGAGTGGAGCGAGGCGCTGCGAGCAGCAGCAGCGTGGACCGTGCATGCAGGGCCAGAGCGTGGAGGCCGCGCT

180▶ Q A R Q L E S E R E A L Q Q Q H S V Q V D Q L R M Q G Q S V E A A L

1201 CCGCATGGAGCGCCAGGCCGCTCGGAGGAGAAGGAAAGCTGGCCAGTTGCCAGTGGCCTATCACCAGCTCTTCCAAGAATACGACAACCACATCAAG

213▶ R M E R Q A A S E E K R K L A Q L Q V A Y H Q L F Q E Y D N H I K

BsrBI (1318)
BglII (1344)
MscI (1385)

1301 AGCAGCGTGGTGGCAGTGGAGCGGAAAGCGAGGAATGCAGCTGGAAGATCTCAAACAGCAGCTCCAGCAGGCCGAGGAGGCCCTGGTGGCCAAACAGGAGG

247▶ S S V V G S E R K R G M Q L E D L K Q Q L Q Q A E E A L V A K Q E

ClaI (1402)
EcoRV (1477)

1401 TGATCGATAAGCTGAAGGAGGAGGCCGAGCAGCACAAGATTGTGATGGAGACCGTCCGGTGTGTAAGGCCAGGCGGATATCTACAAGCGGACTTCCA

280▶ V I D K L K E 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

XmaI (1514)
SdaI (1545)

1501 GGCTGAGAGGCAGGCCCGGAGAAGCTGGCCGAGAAGAAGGAGCTCCTGAGGAGCAGCTGGAGCAGCTGCAGAGGGAGTACAGCAAACCTGAAGGCCAGC

313▶ A E R Q A R E K L A E K K E L L Q E Q L E Q L Q R E Y S K L K A S

1601 TGTGAGGAGTCCGCGAGGATCGAGGACATGAGGAAGCGGCATGTCGAGGTCTCCAGGCCCTTGCCTCCGCTCTCTCTCCCTGG

347▶ C Q E S A R I E D M R K R H V E V S Q A P L P P A P A Y L S S P L

BspLU11I (1797)

1701 CCCTGCCAGCCAGAGGAGGAGCCCCCGAGGAGCCACTGACTTCTGCTGTCCCAAGTGCCAGTATCAGGCCCTGATATGGACACCTGCAGATACA

380▶ A L P S Q R R 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

BamHI (1819)
NdeI (1859)

1801 TGTGATGGAGTGCATTGAGGGATCCTATCCCTATGATGTGCCAGACTATGCTGGCTATCCATATGATGTTCTGATTATGCTGGATACCTTATGATGTG

413▶ V M E C I E G S Y P Y D V P D Y A G Y P Y D V P D Y A G Y P Y D V

MscI (1922)
NheI (1916)

1901 CCAGACTATGCCTAAAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGT

447▶ P D Y A •

HpaI (2054)

2001 GAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAACAACAACAATTGCATTCATTTTATGTTTCAGGTTTCAGGGGG

EcoRI (2150)

2101 AGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATCTAAAATACAGCATAGCAAACTTAACTCCAATCAAGCCTCT

2201 ACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTCTTTCATGGAGTTA

SspI (2389)

2301 AGATATAGTATTTTTCCAAGTGTGAAGTGTGACTAGCTCTTCAATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTGTAGTAAATATTTCAGAA

Swal (2403)
2401 ATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTAGTAGTTGGA
2501 CTTAGGGAACAAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGG
141 • N R T Y K L P I L E E I T
BstXI (2693)
2601 TGGTTTTGACCAGCTTGCCATTCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCCT
127 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 C P S V V R
2701 GATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCT
94 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
StuI (2828)
2801 TCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGCTTGT
60 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 G V H H K N
BspHI (2978)
BbsI (2974)
XmnI (2970)
2901 TGTCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGATGGCCCTCCTATAGTG
27 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 (3036)
3001 AGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGATGGCGTCTCCAGCTTATCTGACGGTTCACTAAACGAGCTCT
SpeI (3191)
3101 GCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCA
3200 AAACAAACTCCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATC
SnaBI (3319)
3300 ATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGGGGCCATTTACCGTCAT
NdeI (3424)
3400 TGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCGAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGT
3500 CCCTATTGGCGTTACTATGGGAACATACGTCAATTATTGACGTCAATGGGCGGGGTCTGTTGGGCGGTACGCCAGGCGGGCCATTTACCGTAAGTTATGTA
SdaI (3602) PacI (3610) BspLU11I (3620)
3600 ACGCCTGCAGGTTAA TTAAGAACATGTGAGCAAAAGGCCAGGAAACCGTAAAAAGGCCGCTTGTGGCGTTTTTCCATAGGCTCCCG
3698 CCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCTGGAAGCTCCCTCG
3798 TGGCTCTCCTGTTCCGACCCTGCCGCTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCTCAGCTGTAGGTATCT
ApaLI (3934)
3898 CAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTAGCCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCC
3998 AACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGTAACAGGATTAGCAGAGCGAGGTATGTAGCGGTGCTACAGAGTCTTGAAGTGGT
4098 GGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAA
4198 ACAAAACCACCGCTGGTAGCGGTGGTTTTTTTGTGTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGG
EagI (4370)
PacI (4350) Swal (4359) NotI (4369)
4298 TCTGACGCTCAGTGGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGCAATAAAATATCTTTATTTTC
4398 ATTACATCTGTGTGTTGGTTTTTTTGTGTGAATCGTAACATACGCTCTCCATCAAAACAAAACGAAAACAAAACAACTAGCAAATAGGCTGTCCCC
4498 AGTGCAAGTGACGGTGCCAGAACATTTCTCTATCGAA