



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

1 GGATCTGCGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGCGCAATTGAACGGGTGCCTA

101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTGTGCTGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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

201 GTGAACGTTCTTTTTTCGAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCCTTCACGCGCCCGCCCTACCTGAGGCC

301 GCCATCCACGCCGGTTGAGTCGCGTTCTGCCGCCTCCCGCTGTGGTGCTCCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

AgeI (552)
BspHI (560)

501 TCTGTTTGTCCGGCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTTCATCATGACCAAGGAGTATCAAGACCTTCAGCATCTGGACAA

1 ▶ M T K E Y Q D L Q H L D N

BspEI (670)

601 TGAGGAGAGTGACCACCATCAGCTCAGAAAAGGCCACCTCCTCCCCAGCCCCTCTGACGCTCTCTGCTCCGGACCTCGCCTCCTCTGCTCTCCCTG

13▶ E E S D H H Q L R K G P P P P Q P L L Q R L C S G P R L L L L S L

BamHI (739)

701 GGCCTCAGCCTCTGCTGTTGTGGTTGTGTGTGATCGGATCCAAAACCTCCAGCTGCAGGAGGAGTGCGGGGCCTGAGAGAGACGTTTCAGCAACT

47▶ G L S L L L L V V V C V I G S Q N S Q L Q E E L R G L R E T F S N

801 TCACAGCGAGCACGGAGGCCAGGTCAAGGGCTTGAGCACCCAGGGCAATGTGGGAAGAAAGTGAAGTCGCTAGAGTCCAGCTGGAGAAACAGCA

80▶ F T A S T E A Q V K G L S T Q G G N V G R K M K S L E S Q L E K Q Q

XmnI (942)

BbrPI (937)
BstXI (993)

901 GAAGGACCTGAGTGAAGATCACTCCAGCCTGCTGCTCCACGTGAAGCAGTTCTGTGTCTGACCTGCGGAGCCTGAGCTGTCAGATGGCGGCGCTCCAGGGC

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

StuI (1079)

1001 AATGGCTCAGAAAGACCTGCTGCCCGTCAACTGGGTGGAGCACGAGCGCAGCTGCTACTGTTTCTCTCGCTCCGGGAAGGCTGGCTGACGCCGACA

147▶ N G S E R T C C P V N W V E H E R S C Y W F S R S G K A W A D A D

NgoMIV (1106)
DraIII (1123)

1101 ACTACTGCCGGCTGGAGGACGCGCACCTGGTGGTGGTACGTCTGGGAGGAGCAGAAATTTGTCAGCACCACATAGGCCCTGTGAACACCTGGATGGG

180▶ N Y C R L E D A H L V V V T S W E E Q K F V Q H H I G P V N T W M G

Bsp120I (1216)

1201 CCTCCACGACAAAACGGGCCCTGGAAGTGGGTGGACGGGACGGACTACGAGACGGGCTTCAAGAAGTGGAGGCCGAGCAGCCGGACGACTGGTACGGC

213▶ L H D Q N G P W K W V D G T D Y E T G F K N W R P E Q P D D W Y G

EagI (1344)
Tth111I (1357)

1301 CACGGGCTCGGAGGAGCGAGGACTGTGCCACTTCACCGACGACGGCCGCTGGAACGACGACGTCTGCCAGAGGCCCTACCCTGGGCTGCGGAGACAG

247▶ H G L G G G E D C A H F T D D G R W N D D V C Q R P Y R W V C E T

MscI (1468)

NheI (1462)

1401 AGCTGGACAAGGCCAGCCAGGAGCCACCTCTCCTTTAATTTTCTTCAATGCCTCGACCTGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTT

280▶ E L D K A S Q E P P L L •

1501 TGGACAAACCACAACCTAGAATGCAGTGAATAAATGCTTTATTTGTGAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGTGAATAAACAA

HpaI (1600)
MfeI (1611)
EcoRI (1696)

1601 GTTAAACAACAACATTGCATTCATTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGTTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAAT

▶

1701 TCTAAATACAGCATAGCAAACTTTAACTCCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCC

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SapI (1878)

1801 AATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTCATGGAGTTAAGATATAGTGTATTTTCCCAAGTTTGAACCTGCTTTCATTTCTTTATGTTTT

SspI (1935)
SwaI (1949)

1901 AAATGCACTGACCTCCACATTCCTTTTTAGTAAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATC

2001 CAGATGCTCAAGGCCCTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTAAATAGAAATTGGACAGCAAGAAAGCGAGCTTC

2101 TAGCTTTAGTTCTGTTGACTTGGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCATCTCAATGAGCACAAGCAGTCAGGAGCAT

141▶ • 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

SacI (2210)
BstXI (2239)

2201 AGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGC

109▶ D S I 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

StuI (2374)

2301 AAAGTCCTTGTCCCGTTGCTCAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTACCCTGCCAATGTAGGCTCAATGTGGACAGCAGAGATG

76▶ F D K 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

2401 ATCTCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGTGTTGTCTCATAGAGCATGGTGATCTTCTCAGTGGGACCTCCACCAGCTCCAGAT
42 I E G 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

BbsI (2520)
XmnI (2516) AseI (2582)

2501 CCTGCTGAGAGATGTTGAAGTCTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGC
9 Q Q S I N F T K M

SacI (2639)

2601 GTGGATGGCGTCTCCAGCTTATCTGACGGTTCATAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCTACCGCCATTGCGTCAATGGGGC

SpeI (2737)

2701 GGAGTTGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAAACAACTCCATTGACGTCAATGGGTGGAGACTTGAAATCCCCGTGAGTCA

SnaBI (2865)

2801 AACCGTATCCACGCCATTGATGTA CTGCAAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATA

NdeI (2970)

2901 AGGTCATGTA CTGGGCATAATGCCAGGCGGGCCATTACCCTGATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGATGTA CTGCCAAGTG

3001 GGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGG

PacI (3156)

SdaI (3148) BspLU11I (3166)

3101 TCGTTGGGCGGT CAGCCAGGCGGGCCATTACCCTAAGTTATGTAACGCTGCAGGTTAATAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAA
3201 CCGTAAAAAGGCCGCTTGTGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACA
3301 GGACTATAAGATACCAGGCTTTCCCTGGAAGCTCCCTCGTGGCTCTCCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTT

ApaLI (3480)

3401 CCGGAAGCGTGGCGTTTTCTCATAGCTCAGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTCA
3501 GCCCGACCCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGC
3601 AGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGC
3701 CAGTTACCTTCGAAAAAGATTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTGTGCAAGCAGCAGATTACGCGCAG

PacI (3896)

3801 AAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAA

EagI (3916)
SwaI (3905) NotI (3915)

3901 TTAACATTTAAATCAGCGGCCGCAATAAAATATCTTTATTTTCATTACATCTGTGTGTTGGTTTTTGTGTAATCGTAACTAACATACGCTCTCCATCA
4001 AAACAAACGAAACAAACAACTAGCAAAATAGGCTGTCCCAAGTCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA