



PvuI (7)
SgfI (6) 1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
MfeI (82)
101 GAGAAGGTGGCGCGGGTAAACTGGAAAAGTATGTCGTGACTGGCTCCGCCTTTTCCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) 201 GTGAACGTTCTTTTTTCGAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCCTTCACGCGCCCGCCCTACCTGAGGCC
HindIII (245)
Bsu36I (291)
301 GCCATCCACGCCGGTTGAGTCGCGTTCTGCCGCTCCCGCTGTGGTGCTCCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

AgeI (552) 501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTACCATTGGTCAACCCACAGCAAGTTTCCCGCCGCCGGGATGAG
NcoI (560) 1▶ M V T H S K F P A A G M S
FspI (674) 601 CCGCCCCCTGGACACCAGCCTGCGCCTCAAGACCTTCAAGCTCCAAAAGCGAGTACCAGCTGGTGGTGAACGCCGTGCGCAAGCTGCAGGAGAGCGGATTC
BsrBI (690) 13▶ R P L D T S L R L K T F S S K S E Y Q L V V N A V R K L Q E S G F
SacII (752) 701 TACTGGAGCGCCGTGACCGCGCGGAGGCGAACCTGCTGCTCAGCGCCGAGCCCGCGGGCACCTTTCTTATCCGCGACAGCTCGGACCAGCGCCACTTCT
47▶ Y W S A V T G G E A N L L L S A E P A G T F L I R D S S D Q R H F
TthIII (816) 801 TCACGTTGAGCGTCAAGACCCAGTCGGGGACCAAGAACCTACGCATCCAGTGTGAGGGGGGACGCTTTTCGCTGCAGAGTGACCCCGAAGCAGCGAGCC
80▶ F T L S V K T Q S G T K N L R I Q C E G G S F S L Q S D P R S T Q P
SandI (955)
ApaLI (931) 901 AGTCCCCGTTCTGACTGTGACTCAAGCTGGTGCACCACTACATGCCGCTCCAGGGACCCCTCTTTTCTTTCACCCACGGAACCCTCGTCCGAA
113▶ V P R F D C V L K L V H H Y M P P P G T P S F S L P P T E P S S E
EcoO109I (955)
BspEI (1002) 1001 GTTCCGGAGCAGCCACTGCCAGGCACTCCCGGGAGTACCCCAAGAGAGCTTACTACATCTATTCTGGGGGCGAGAAGATTCCGCTGGTACTGAGCC
147▶ V P E Q P P A Q A L P G S T P K R A Y Y I Y S G G E K I P L V L S
XmaI (1030)
MscI (1118) 1101 GACCTCTCTCCTCAACGTGGCCACCCTCCAGCATCTTTGTGGAAGACTGTCAACGGCCACCTGGACTCCTATGAGAAAGTGACCCAGCTGCCTGGACC
180▶ R P L S S N V A T L Q H L C R K T V N G H L D S Y E K V T Q L P G P
BbsI (1143)
BstXI (1185)
MscI (1267)
NheI (1261) 1201 CATTGGGAGTTCCTGGATCAGTATGATGCTCCACTTAAAGGAGCAAAGGGTCAAGGGGGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTT
213▶ I R E F L D Q Y D A P L •

HpaI (1399) 1301 GGACAAACCACAACACTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACCAAG

MfeI (1410) 1401 TTAACAACAACAATTGCATTCATTTTATGTTTCAGGTTGAGGGGAGGTGTTGGAGGTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTATGGAATT
EcoRI (1495)
1501 CTAAAATACAGCATAGCAAACTTTAACCTCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCA

SapI (1677) 1601 ATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTATTTTCCCAAGTTTGAAGTCTTTCATTTCTTTATGTTTAA

SspI (1734) 1701 AATGCACTGACCTCCACATTCCCTTTTATGAAAATATTAGAAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTATTAGGCAGATCC
SwaI (1748)

EcoO109I (1809) 1801 AGATGCTCAAGGCCCTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCT
1901 AGCTTTAGTTCCTGGTACTTGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCATTCTCAATGAGCACAAGCAGTCAGGAGCATA
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 (2009) 2001 GTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCA
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
BstXI (2038)
StuI (2173) 2101 AAGTCTTCTGCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCAAGCAGACAGTACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGA
75▶ 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 I
2201 TCTCCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGTCTTGTCTCATAGAGCATGGTATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATC
42▶ 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 (2319) XmnI (2315) AseI (2381)
 2301 CTGCTGAGAGATGTTGAAGTCTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCG
 9 Q Q S I N F T K M ←

SacI (2438)
 2401 TGGATGGCGTCTCCAGCTTATCTGACGGTTCACATAACGAGCTCTGCTTATATAGACCTCCACCCTACACGCCTACCGCCCATTTGCGTCAATGGGGC

SpeI (2536)
 2501 GAGTTGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGICAAAACAAACTCCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAA

SnaBI (2664)
 2601 ACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAA

NdeI (2769)
 2701 GGTCACTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGG

2801 GCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGGT

PacI (2955) SdaI (2947) BspLU11I (2965)
 2901 CGTTGGGCGGTACGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCTGCAGGTTAATTAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAAC
 3001 CGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAG
 3101 GACTATAAAGATACCAGGCGTTTCCCCCTGAAAGTCCCTCGTGCCTCTCCTGTTCCGACCCTGCCGTTACCGGATACCTGTCGCTTTCTCCCTTC

ApaLI (3279)
 3201 GGAAGCGTGGCGTTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCAAGCTGGGCTGTGTGCACGAACCCCGTTGAG
 3301 CCCGACCGCTGCGCTTATCCGTAACATCGTCTTGAGTCCAACCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCA
 3401 GAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCC
 3501 AGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAAACAAACCACCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGA

PacI (3695)
 3601 AAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAAT

EagI (3715) SwaI (3704) NotI (3714)
 3701 TAACATTTAAATCAGCGCCGCAATAAAATATCTTTATTTTATTACATCTGTGTGTTGGTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAA
 3801 AACAAAACGAAACAAAACAACTAGCAAAATAGGCTGTCCCAAGTGAAGTGCAGGTGCCAGAACATTTCTCTATCGAA