



PvuI (7)
SgfI (6) 1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
MfeI (82)
101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245)
Psp1406I (203) 201 GTGAACGTTCTTTTTCGCAACGGGTTTGGCCGAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACAGCGCCCGCCGCTACCTGAGGCC
PvuII (239)
Bsu36I (291)
301 GCCATCCACGCGGTTGAGTGCAGTCTGCCGCTCCCGCTGTGGTGCTCCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCGGCTCTCCACGCTTGGCTGACCCTGTTGCTCAACTCTACGTCTTTGTTTCGTTT

BspHI (560)
AgeI (552) 501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGGCTACCTGAGATCACCGGTCATCATGAGCAATAACGTTTACAACAATTATTAACGCCCG
BstEII
1▶ M S N N A L Q T I I N A R

PstI (634) 601 GTTACCAGGCGAAGAGGGGCTGTGGCAGATTTCATCTGCAGGACGAAAAATCAGCGCCATTGATGCGCAATCCGGCGTGATGCCATAACTGAAAACAGC
FspI (663)
13▶ L P G E E G L W Q I H L Q D G K I S A I D A Q S G V M P I T E N S
701 CTGGATGCCGAACAAGTTTGTATACCGCGCTTTGTGGAGCCACATATTCACCTGGACACCACGAAACCGCCGACAACCGAAGTGAATCAGTCCG
47▶ L D A E Q G L V I P P F V E P H I H L D T T Q T A G Q P N W N Q S
801 GCACGCTGTTTGAAGCATTGAACGCTGGGCGGAGCGAAAGCATTAAACCATGACGATGTGAAACAACGCGCATGGCAAACGCTGAAATGGCAGAT
80▶ G T L F E G I E R W A E R K A L L T H D D V K Q R A W Q T L K W Q I
901 TGCCAACGGCATTGAGCATGTGCGTACCATGTGATGTTTGGATGCAACGTAAGTGCCTGAAAGCAATGCTGGAAGTGAAGCAGGAAGTCCGCGCC
113▶ A N G I Q H V R T H V D V S D A T L T A L K A M L E V K Q E V A P

Bsu36I (1027) 1001 TGGATTGATCTGCAAAATCGTCGCCTTCCCTCAGGAAGGATTTGTCGTATCCCAACGGTGAAGCGTTGCTGGAAGAGGGCTTACGTTAGGGGAGATG
147▶ W I D L Q I V A F P Q E G I L S Y P N G E A L L E E A L R L G A D
1101 TAGTGGGGGCGATTCCGCATTTTGAATTTACCGTGAATACGGCGTGGAGTGCCTGCATAAAACCTTCCGCTGGCGAAAAATACGACCGTCTCATCGA
180▶ V V G A I P H F E F T R E Y G V E S L H K T F A L A Q K Y D R L I D

ClaI (1216) 1201 CGTTCACTGTGATGAGATCGATGACGAGCAGTCGCGCTTTGTCGAAACGTTGCTGCCCTGGCGACCATGAAGCGATGGGCGCGGATCACCGCCAGC
BssHIII (1280)
213▶ V H C D E I D D E Q S R F V E T V A A L A H H E G M G A R V T A S

Bst1107I (1332) 1301 CACACCACGGCAATGCACTCCTATAACGGGGCGTATACCTCACGCTGTTCGGTGTGAAAATGTCGGGTATTAACCTTTGTCGCCAACCCGCTGGTCA
BstXI (1385) **SspI (1399)**
247▶ H T T A M H S Y N G A Y T S R L F R L L K M S G I N F V A N P L V

SnaBI (1425) 1401 ATATTCATCTGCAAGGACGTTTTCGATACGTATCCAAAACGTCGCGGCATCACGCGCTTAAAGAGATGCTGGAGTCCGGCATTAACTGCTGCTTTGGTCA
BsaBI (1423)
280▶ N I H L Q G R F D T Y P K R R G I T R V K E M L E S G I N V C F G H

BbsI (1507) 1501 CGATGATGCTTTCGATCCGTTGGTATCCGCTGGGAACGGCGAATATGCTGCAAGTGTGCATATGGGGTGCATGTTTCCAGTTGATGGCTACGGGCG
BstAPI (1548) **NdeI (1558)**
313▶ D D V F D P W Y P L G T A N M L Q V L H M G L H V C Q L M G Y G Q
1601 ATTAACGATGGCTGAATTTAATCACCCACCACAGCGCAAGGACGTTGAATTTGCAAGATTACGGCATTGCCCGCGAAACAGCGCAACCTGATTATCC
347▶ I N D G L N L I T H H S A R T L N L Q D Y G I A A G N S A N L I I

NgoMIV (1701) 1701 TGCCGGCTGAAAATGGGTTTGTGCGCTGCGCGTCAGGTTCCGGTACGTTATTCGGTACGTGGCGGCAAGGTGATTGCCAGCACACAACCGGCACAAC
XcmI (1799)
380▶ L P A E N G F D A L R R Q V P V R Y S V R G G K V I A S T Q P A Q T

ClaI (1828) **Psp1406I (1838)** **MscI (1852)** 1801 CACCGTATATCTGGAGCAGCAGAAGCCATCGATTACAAACGTTGAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACA
NheI (1846)
413▶ T V Y L E Q P E A I D Y K R •

HpaI (1984) **MfeI (1995)** 1901 AGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAATT

EcoRI (2080) 2001 GCATTCATTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTATGGAATCTAAAATACAGCATA
2101 GCAAAACTTTAACCTCCAATCAAGCCTCTACTGAACTCTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTTTGCCAATGTGCATTAGCTGT

SapI (2262) 2201 TTGCAGCCTCACCTTCTTCATGGAGTTAAGATATAGTATTTTCCCAAGGTTTGAAGTACTCTTCTTTATGTTTTAAATGCACTGACCTCC

SspI (2319) **Swal (2333)** 2301 CACATTCCCTTTTGTAGAAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCC
EcoO109I (2394)
2401 TTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGAACAAAGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGG
1+1 • N R T

SacI (2594) 2501 TGTACTTGAGGGGATGAGTTCCCTCAATGGTGGTTTTGACCAGCTTGCCATTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTC
137▶ 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 D S I L E

BstXI (2623)

2601 TCTGCACATGCCACAGGGGCTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCCG
104 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 F D K Q G

StuI (2758)

2701 TTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGG
70 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 E G T K T

2801 TCCTGATGGCCGCCCGACATGGTGCTTGTCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTT
37 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 Q Q S I N

BbsI (2904)

XmnI (2900) AseI (2966)

2901 GAAGGCTTTCATGGTGGCCCTCCTATAGTGAGTCGATTATATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCA
4 F T K M

SacI (3023)

3001 GCTTATCTGACGGTTCACATAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTGCGTCAATGGGGCGGAGTTGTTACGACAT

SpeI (3121)

3101 TTTGGAAAGTCCC GTT GATTTACTAGTCAAACAAACTCCATTGACGTCAATGGGGTGGAGACTTGGAAATCCCCGTGAGTCAAACCGCTATCCACGCC

SnaBI (3249)

3201 CATTGATGTA CTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTA CTGCCAAGTAGGAAAGTCCATAAGGTCACTACTGGGC

NdeI (3354)

3301 ATAATGCCAGGGGCCATTTACCGTCATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGATGTA CTGCCAAGTGGGCAGTTTACCGTAAA

3401 TACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTACTATGGGAACATACGTCAATTATTGACGTCAATGGCGGGGGTCTGTTGGCGGTCAGC

PacI (3540)

PstI (3533) SdaI (3532) BspLU11I (3550)

3501 CAGCGGGCCATTTACCGTAAGTTATGTAACGCCTGCAGGTTAATTAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCG
3601 TTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACC

3701 AGGCGTTTTCCCTGGAAGCTCCCTCGTGCCTCTCTGTTCCGACCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCT

ApaLI (3864)

3801 TTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCAAGCTGGGCTGTGTGCACGAACCCCCGTTACGCCGACCGCTGCGCC

3901 TTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAG

4001 CGGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGTGAAGCCAGTTACCTTCGAAAA

4101 AAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAA

PacI (4280) SwaI (4289) NotI (4299)

4201 GAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGGAAACGAAAACCTCACGTTAAGGGATTTTGGTCA TGCTAGTTAATTAACATTTAAATC AG

EagI (4300)

4301 CGCCGCAATAAAAATATCTTTATTTTTCATTACATCTGTGTGTTGGTTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAAACAAACGAAACAA

4401 AACAAACTAGCAAAATAGGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA