



PvuI (7)
SgfI (6) **MfeI (82)**
1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245)
Psp1406I (203) **PvuII (239)** **Bsu36I (291)**
201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACACGCCGCCGCCCTACCTGAGGCC
301 GCCATCCACGCCGGTTGAGTCGCGTTTCTGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTAACTCTACGCTTTTGTTCGTTT

SphI (560)
AgeI (552) **BglII (593)**
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCCTACCTGAGATCACCGGTCAGCATGCAGCAGCCCTTCAATTACCCATATCCCCAGATCTA
1▶ M Q Q P F N Y P Y P Q I Y

EcoO109I (629)
Bsp120I (629)
601 CTGGGTGGACAGCAGTGCAGCTCTCCCTGGGCCCTCCAGGCACAGTCTTCCCTGTCCAACCTCTGTGCCAGAAGGCTGGTCAAAGGAGGCCACCA
13▶ W V D S S A S S P W A P P G T V L P C P T S V P R R P G Q R R P P
701 CCACCACCGCCACCGCCACCTACCACCTCCGCCGCCGCCACCCTGCCTCCACTACCGCTGCCACCCCTGAAGAAGAGAGGGGAACCACAGCACAG
47▶ P P P P P P P L P P P P P P P L P P L P L P L P P L K K R G N H S T

SapI (870)
801 GCCTGTGTCTCCTTGTGATGTTTTTCATGGTTCTGTTGCTTGGTAGGATTGGGCTGGGGATGTTTCAGCTCTTCCACCTACAGAAGGAGCTGGCAGA
80▶ G L C L L V M F F M V L V A L V G L G L G M F Q L F H L Q K E L A E
901 ACTCCGAGAGTCTACCAGCCAGATGCACACAGCATCATCTTGGAGAAGCAAAATAGGCCACCCAGTCCACCCCTGAAAAAAGGAGCTGAGGAAAGTG
113▶ L R E S T S Q M H T A S S L E K Q I G H P S P P P E K K E L R K V

BbsI (1048)
1001 GCCATTTAACAGCAAGTCCAACCTCAAGTCCATGCCTCTGGAATGGGAAGACCTATGGAATTGCTGCTTTCTGGAGTGAAGTATAAGAAGGGTG
147▶ A H L T G K S N S R S M P L E W E D T Y G I V L L S G V K Y K K G

Bst1107I (1144)
1101 GCCTGTGATCAATGAAACTGGGCTGTACTTTGTATATTCCAAAGTATACTTCCGGGTCAATCTTGCAACAACCTGCCCTGAGCCACAAGGCTACAT
180▶ G L V I N E T G L Y F V Y S K V Y F R G Q S C N N L P L S H K V Y M

Bsp120I (1277)
1201 GAGGAACTCTAAGTATCCCAAGGATCTGGTGTGATGGAGGGGAAGATGATGAGCTACTGCCTACTGGGCAGATGTGGGCCCGCAGCAGCTACCTGGGG
213▶ R N S K Y P Q D L V M M E G K M M S Y C T T G Q M W A R S S Y L G
1301 GCAGTGTTCATCTTACCAGTGTGATCATTATATGTCAACGTATCTGAGCTCTCTGCTGCAATTTTGAGGAATCTCAGACGTTTTTCGGCTTATATA
247▶ A V F N L T S A D H L Y V N V S E L S L V N F E E S Q T F F G L Y

MscI (1439)
NheI (1433)
1401 AGCTTAAGAGAAGCACTTTGGATTCTTCCAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCAACTAGAATGCAGTGAA
280▶ K L •

HpaI (1571) **MfeI (1582)**
1501 AAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAAGTTAAACAACAACAAATTGCATTCATTTTAT

EcoRI (1667)
1601 GTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAAATCTAAAATACAGCATAGCAAACTTTAAC
1701 CTCCAAATCAAGCCTCTACTTGAATCCTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGAGCCTCACC

SapI (1849)
1801 TTCTTTCATGGAGTTAAGATATAGTGTATTTTCCAAGGTTTGAAGTACTCTTCTTCTTATGTTTTAAATGCACTGACCTCCACATTCCTTTT

SspI (1906) **SwaI (1920)** **EcoO109I (1981)**
1901 TAGTAAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTCATAATATCCC
2001 CCAGTTTAGTAGTTGGACTTAGGGAACAAGGAACCTTAAATAGAAATTTGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTACTTGAGGGG
2101 GATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCATTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCA
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
2201 CAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAG
99▶ 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 S
2301 ACCCAATGGCAATGGCTTCCAGCAGACAGTACCCTGCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCGAGTCTTGGTCTGATGGCCGC
66▶ 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
BbsI (2491)
XmnI (2487)

AseI (2553)
2401 CCCGACATGGTGTCTGTTGCTCCTCATAGAGCATGGTGTCTTCTCAGTGGCGACCTCCACAGCTCCAGATCCTGCTGAGAGATGTTGAAGGCTTCTATG
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
2501 GTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGG

2601 T T C A C T A A A C G A G C T C T G C T T A T A T A G A C C T C C C A C C G T A C A C G C C T A C C G C C A T T T G C G T C A A T G G G G C G G A G T T G T T A C G A C A T T T T G G A A A G T C C C

2701 G T T G A T T T A C T A G T C A A A A C A A A C T C C C A T T G A C G T C A A T G G G G T G G A G A C T T G G A A A T C C C C G T G A G T C A A A C C G C T A T C C A C G C C A T T G A T G T A C T G

SpeI (2708)

2801 C C A A A A C C G C A T C A T C A T G G T A A T A G C G A T G A C T A A T A C G T A G A T G T A C T G C C A A G T A G G A A A G T C C C A T A A G G T C A T G T A C T G G G C A T A A T G C C A G G C G

SnaBI (2836)

2901 G G C C A T T T A C C G T C A T T G A C G T C A A T A G G G G G C T A C T T G G C A T A T G A T A C A C T T G A T G T A C T G C C A A G T G G G C A G T T T A C C G T A A A T A C T C C A C C C A T T

NdeI (2941)

3001 G A C G T C A A T G G A A A G T C C C T A T T G G C G T T A C T A T G G G A A C A T A C G T C A T T A T T G A C G T C A A T G G G C G G G G T C G T T G G G C G G T C A G C C A G G C G G G C C A T T

3101 T A C C G T A A G T T A T G T A A C G C T G C A G G T T A A T T A A G A A C A T G T G A G C A A A A G G C C A G C A A A A G G C C A G G A A C C G T A A A A A G G C C G C G T T G C T G G C G T T T T

PacI (3127)
PstI (3120)
SdaI (3119)
BspLU11I (3137)

3201 T C C A T A G G C T C C G C C C C C T G A C G A G C A T C A C A A A A T C G A C G C T C A A G T C A G A G G T G G C G A A C C C G A C A G G A C T A T A A G A T A C C A G G C G T T C C C C C

3301 T G G A A G C T C C C T C G T G C G C T C T C T G T T C C G A C C T G C C G T T A C C G G A T A C C T G T C C G C T T T C T C C T T C G G G A A G C G T G G C G T T T C T C A T A G C T C A

3401 C G C T G T A G G T A T C T C A G T T C G G T G T A G G T C G T T C G C T C C A A G C T G G G C T G T G T G C A C G A A C C C C C G T T C A G C C C G A C C G C T G C G C T T A T C C G G T A A C T

ApaLI (3451)

3501 A T C G T C T T G A G T C C A A C C C G G T A A G A C A C G A C T T A T C G C C A C T G G C A G C A G C C A C T G G T A A C A G G A T T A G C A G A G C G A G G T A T G T A G G C G G T G C T A C A G A

3601 G T T C T T G A A G T G G T G G C C T A A C T A C G G T A C A C T A G A A G A A C A G T A T T T G G T A T C T G C G C T C T G C T G A A G C C A G T T A C C T T C G G A A A A A G A G T T G G T A G C

3701 T C T T G A T C C G G C A A A C A A C C A C C G C T G G T A G C G G T G G T T T T T T T T T T G T T G C A A G C A G C A G A T T A C G C G C A G A A A A A A G G A T C T C A A G A A G A T C C T T T G A

3801 T C T T T T C T A C G G G T C T G A C G C T C A G T G G A A C G A A A A C T C A C G T T A A G G G A T T T T G G T C A T G G C T A G T T A A T T A A C A T T T A A A T C A G C G C C G C A A T A A A

EagI (3887)
PacI (3867) **SwaI (3876)** **NotI (3886)**

3901 A T A T C T T T A T T T T C A T T A C A T C T G T G T T G G T T T T T T T T G T G T A A T C G T A A C T A A C A T A C G C T C T C C A T C A A A A C A A A A C G A A A C A A A A C A A A C T A G C A A

4001 A A T A G G C T G T C C C C A G T G C A A G T G C A G G T G C C A G A A C A T T T T C T A T C G A A