



**PvuI (7)**  
**SgfI (6)** 1 GGATCTGCGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA  
MfeI (82) EcoNI (96)

101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGACTGGTCCGCCTTTTCCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

**Psp1406I (203)** HindIII (245) **Bsu36I (291)**  
PvuII (239) EcoNI (287)

201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACAGCGCCCGCCCTACCTGAGGCC  
301 GCCATCCACGCGGTTGAGTGCAGTTCGCCCTCCCGCCTGTGGTGCCTCCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

**NgoMIV (441)**

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTAACTCTACGCTTTTGTTCGTTT

**NcoI (560)**  
BstEII (555)  
**AgeI (552)**

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCCCTACCTGAGATCACCGGTCCACCTGGGACTGAGTAACATTCTCTTTGTGATGGCCTTCCT  
1 M G L S N I L F V M A F L

HindIII (629) PstI (647)

601 GCTCTCTGGTGTCTCCTCTGAAGATTCAAGCTTATTTCAATGAGACTGCAGACCTGCCATGCCAATTTGCAAACCTCTCAAACCAAAGCCTGAGTGAG  
13 L S G A A P L K I Q A Y F N E T A D L P C Q F A N S Q N Q S L S E

**Bst1107I (745)**

701 CTAGTAGTATTTTGGCAGGACCAGAAAACCTGGTTCTGAATGAGGTACTTAGGCAAGAAAAGAAAATTTGACAGTGTTCATTCCAAGTATATGGCCGCA  
47 L V V F W Q D Q E N L V L N E V Y L G K E K F D S V H S K Y M G R  
801 CAAGTTTTGATTCGGACAGTTGGACCCTGAGACTTACAATCTCAGATCAAGGACAAGGGCTGTATCAATGTATCATCCATCACAAAAAGCCACAGG  
80 T S F D S D S W T L R L H N L Q I K D K G L Y Q C I I H H K K P T G

**BsaBI (903)** **BsrGI (995)**

901 AATGATTCGCATCCACCAGATGAATTCTGAACTGTCAGTGCTTGTAACTTCAGTCAACCTGAAATAGTACCAATTTCTAATATAACAGAAAATGTGTAC  
113 M I R I H Q M N S E L S V L A N F S Q P E I V P I S N I T E N V Y

BstEII (1027)

1001 ATAAATTTGACCTGCTCATCTATACACGGTTACCCAGAACCTAAGAAGATGAGTGTTTTGTAAAGAACCAAGAATTCACATCGAGTATGATGGTATTA  
147 I N L T C S S I H G Y P E P K K M S V L L R T K N S T I E Y D G I  
1101 TGCAGAAATCTCAAGATAATGTCACAGAACTGTACAGACTTCCATCAGCTTGTCTGTTTCCCTGATGTTACGAGCAATATGACCATCTCTGTAT  
180 M Q K S Q D N V T E L Y D V S I S L S V S F P D V T S N M T I F C I

EcoO109I (1253) PvuII (1292)

1201 TCTGGAAACTGACAAGACGCGGCTTTTATCTTACCTTCTCTATAGAGCTTGAGGACCTCCAGCCACATTCTTGGATTACAGCTGTA  
213 L E T D K T R L L S S P F S I E L E D P Q P P P D H I P W I T A V  
1301 CTTCCAACAGTTATTATATGTGTGATGGTTTTCTGTCTAATTCTATGAAATGGAAAGAAGAAGCGGCTCGCAACTCTTATAAATGTGGAACCAACA  
247 L P T V I I C V M V F C L I L W K W K K K R P R N S Y K C G T N

BbsI (1494) **BstBI (1491)**  
**Bsp119I (1491)**

1401 CAATGGAGAGGGAAGAGAGTGAACAGACCAAGAAAAGAGAAAAATCCATATACTGAAAGATCTGATGAAGCCAGCGTGTTTTTAAAAAGTTGGAAGAC  
280 T M E R E E S E Q T K K R E K I H I P E R S D E A Q R V F K S S K T

**BspLU11I (1522)** **NheI (1595)**

1501 ATCTTCATGCGACAAAAGTGATACATGTTTTTAATTAAGAGTAAAGCCATACAAGTATTCATTTTTCTACCCTTCTTTGTAAGTTCCTGGGCTAG  
313 S S C D K S D T C F •

**MseI (1601)**

1601 CTGGCCAGACATGATAAGATACATTGATGAGTTTGACAACCCACAAC TAGAATGCAGTGAATAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCT

**HpaI (1733)** MfeI (1744)

1701 TTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACA AATTGCATTATTTATGTTTCAGGTTCCAGGGGAGGTGGGAGTTTTTTAA  
1801 GCAAGTAAAACCTCTACAAATGTGGTATGGAATTCTAAAATACAGCATAGCAAACTTAACTCCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGG  
1901 ATGAATAAGGCATAGGCATCAGGGGCTGTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTCTTTCATGGAGTTAAGATATAGTATTTTCCAA

**SapI (2011)** **SspI (2068)** SwaI (2082)

2001 GGTTTGAAGTCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTTAGTAAATATTCAGAAATAATTTAAATACATCATTGC

EcoO109I (2143)

2101 AATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTCATAATATCCCCAGTTTAGTAGTTGACTTAGGGAACAAGGAACCTT

2201 TAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCAT  
141 • N R T Y K L P I L E E I T T K V L K G N

SacI (2343)

2301 TCATCTCAATGAGCACAAGCAGTCAAGGAGCATAGTCAAGATGAGCTCTGACATGCCACAGGGGCTGACCACCCTGATGGATCTGTCCACCTCATC  
120 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 I S R D V E D  
2401 AGAGTAGGGTCCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGCTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTACCCCTG  
87 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 E A C V T V R

**StuI (2507)**

2501 CCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCGAGTCTGGTCTGATGGCCGCCCGACATGGTCTTGTGCTCCTCATAGAGCATGGTGA  
53 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 D E Y L M T I

BbsI (2653)  
**XmnI (2649)**

2601 TCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCTGCTGAGAGATGTTGAAGTCTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGA  
20 K E T A V E V L E L D Q Q S I N F T K M

AseI (2715) SacI (2772)

2701 TATACTATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTCACTAAACGAGCTCTGCTTATATAGACCTCCCACCG

SpeI (2870)

2801 TACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAACAAACTCCCATTGACGTCA

SnaBI (2998)

2901 ATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATA

3001 CGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACT

NdeI (3103)

3101 TGGCATATGATACACTTGATGTACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCTATTGGCGTTACTATGGGA

PstI (3282)  
**SdaI (3281)** BspLU11I

3201 ACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTCAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCCTGCAGGTTAATAAGAA

3301 CATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAT

3401 CGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTTCCCTGGAAGCTCCCTCGTGCCTCTCCTGTTCCGACCTGC

3501 CGCTTACCGGATACCTGTCCGCCTTCTCCCTTCGGAAGCGTGGCGCTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCCGGTGTAGGTGCTTCGCTC

ApaLI (3613)

3601 CAAGCTGGGCTGTGTGCACGAACCCCCGTTGAGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCG

3701 CCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAA

3801 GAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGG

3901 TTTTTTGTGTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAAC

EagI (4049)  
Swal (4038) **NotI (4048)**

4001 TCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGAATAAAATATCTTTATTTTCATTACATCTGTGTGTTGGTTTTTT

4101 GTGTGAATCGTAACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAACA

4201 TTTCTCTATCGAA