



**PvuI (7)**  
**SgfI (6)** 1 GGATCTGCGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA

101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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

301 GCCATCCACGCGGTTGAGTCGCGTTCTGCCGCTCCCGCCTGTGGTGCCTCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

**NgoMIV (441)**  
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

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

1 M A L S F S L L M A V L V  
EcoO109I (667)

601 GCTCAGCTACAAATCCATCTGTTCTTAGGCTGTGATGTCCTCAGACCCACAGCCTGGGTAATAGGAGGGCCTTGATACTCCTGGCACAATGGGAAGA

13 L S Y K S I C S L G C D L P Q T H S L G N R R A L I L L A Q M G R

**BbsI (777)**  
701 ATCTCTCCTTTCTCTGCCTGAAGGACAGACATGACTTTGGACTTCCCAGGAGGAGTTTGATGGCAACCAGTCCAGAAGACTCAAGCCATCTCTGTCC

47 I S P F S C L K D R H D F G L P Q E E F D G N Q F Q K T Q A I S V

801 TCCATGAGATGATCCAGCAGACCTTCAATCTCTCAGCACAGAGGACTCATCTGCTGTTGGGAACAGAGCCTCTAGAAAAATTTCCACTGAACTTTA

80 L H E M I Q Q T F N L F S T E D S S A A W E Q S L L E K F S T E L Y

**XmnI (993)**  
901 CCAGCAACTGAATAACCTGGAAGCATGTGTGATACAGGAGTTGGGATGGAAGAGACTCCCCTGATGAATGAGGACTCCATCCTGGCTGTGAGGAAATAC

113 Q Q L N N L E A C V I Q E V G M E E T P L M N E D S I L A V R K Y

**BglIII (1078)**  
**BspHI (1073)**  
1001 TTCCAAAAGATCACTCTTTATCTAACAGAGAAGAAATACAGCCCTTGTGCTGGGAGGTTGTGAGAGCAGAAATCATGAGATCTCTCTTTTCAACAA

147 F Q R I T L Y L T E K K Y S P C A W E V V R A E I M R S L S F S T

**MscI (1138)**  
**SspI (1110)** **NheI (1132)**  
1101 ACTTGCAAAAAATATTAAGGAGGAAGGATTGAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAAATGCAGTGAAA

180 N L Q K I L R R K D •

**HpaI (1270)** **MfeI (1281)**  
1201 AAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCAATTATAAGCTGCAATAAACAGTTAAACAACAACATTGCATTCAATTTATG

**EcoRI (1366)**  
1301 TTTCAGGTTACAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATCTAAAATACAGCATAGCAAACTTTAACCC

1401 TCCAAATCAAGCCTCACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTGCAGCCTCACCT

**SapI (1548)**  
1501 TCTTTTCATGGAGTTAAGATATAGTGTATTTTCCCAAGGTTTGAAGTACTGCTCTTCATTCTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTT

**SspI (1605)** **SwaI (1619)** **EcoO109I (1680)**  
1601 AGTAAAATATTCAGAAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCC

1701 CAGTTTAGTAGTTGGACTTAGGGAACAAAGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTTCTGGTGTACTTGAGGGGG

141 • N R T Y K L P

**SacI (1880)**  
1801 ATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCATTCTCAATGAGCACAAAGCAGTCAAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCAC

132 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 C

**BstXI (1909)**  
1901 AGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGA

99 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

**StuI (2044)**  
2001 CCCAATGGCAATGGCTTCCAGCACAGACAGTACCCTGCCAATGTAGGCTCAATGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTGATGGCCGCC

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 (2190)** **XmnI (2186)**  
2101 CCGACATGGTCTTGTGCTCCTCATAGAGCATGGTGTCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGCTTTCATGG

32 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

**AseI (2252)**  
2201 TGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGT

**SacI (2309)**  
2301 TCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCG

2401 **SpeI (2407)**  
TTGATTTACTAGTCAAAACAAACTCCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGC

2501 **SnaBI (2535)**  
CAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGCGG

2601 **NdeI (2640)**  
GCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCGAGTTTACCGTAAATACTCCACCCATTG

2701  
ACGTC AATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTCAGCCAGGCGGGCCATTT

2801 **PstI (2819)** **SdaI (2818)** **PacI (2826)** **BspLU11I (2836)**  
ACCGTAAGTTATGTAACGCTGCAGGTTAATTAAGAACATGTGAGCAAAGGCCAGAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGGCGTTTTT

2901  
CCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCCT

3001  
GGAAGCTCCCTCGTGGCTCTCCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCCTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCTCAC

3101 **ApaLI (3150)**  
GCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTTACGCCGACCGCTGCGCCTTATCCGGTAACTA

3201  
TCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAG

3301  
TTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCT

3401  
CTTGATCCGGCAAACAACACCCTGCTAGCGGTGGTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGAT

3501 **EagI (3586)** **PacI (3566)** **SwaI (3575)** **NotI (3585)**  
CTTTTCTACGGGTCTGACGCTCAGTGGAAACGAAAACCTACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGAATAAAA

3601  
TATCTTTATTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCCTCATCAAACAAAACGAAACAAAACAACTAGCAAA

3701  
ATAGGCTGTCCCCAGTGCAAGTGCAAGTGCCAGAACATTTCTCTATCGAA