



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

101 GAGAAAGTGGCGCGGGTAAACTGGAAAAGTATGTCGTGTACTGGCTCCGCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

**Psp1406I (203)** **HindIII (245)** **Bsu36I (291)**  
201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTCACGCGCCCGCCCTACCTGAGGCC

301 GCCATCCACGCCGGTTGAGTCGCGTTCTGCCGCTCCCGCTGTGGTGCTCCTGAACTGCGTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

**NgoMIV (441)**  
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCGCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

**AgeI (552)** **BspHI (560)**  
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTCATCATGATGCCACAGAACTCACAAGCCTTATTCTGGCAT

601 GTTTGATGACTTCAGCTATGACTCCACTGCTTCCACAGATGACTACATGAATTTGAATTTCCAGTAGCTTCTTGTAAAGAAAAATAATGTCAGGCAGTTT  
1▶ M M P T E L T S L I P G M  
13▶ F D D F S Y D S T A S T D D Y M N L N F S S F F C K K N N V R Q F  
701 GCAAGCCATTTTCTCCACCTGTACTGGCTGTGTTTATTGTTGGGCACCTGGGCAACAGCCTGGTCATCCTTGTCTACTGGTATTGCACAAGAGTGA  
47▶ A S H F L P P L Y W L V F I V G T L G N S L V I L V Y W Y C T R V  
801 AGACCATGACTGACATGTTCTTTTGAATTTAGCCATTGCTGATCTGCTCTTTCTTGGCACTTCCCTTCTGGGCCATTGCTGCTGCTGGTCAATGGAT  
80▶ K T M T D M F L L N L A I A D L L F L A T L P F W A I A A A G Q W M  
901 GTTCCAGACCTTATGTGCAAGGTTGTGAACAGCATGTACAAGATGAACCTTACAGCTGTGTCTCATCATGTGCATCAGTGTGGACAGATACATT  
113▶ F Q T F M C K V V N S M Y K M N F Y S C V L L I M C I S V D R Y I  
1001 GCCATTGTACAGCCATGAAGGCTCAGGCTCGAGGCAGAAAAGGCTGCTATACAGCAAGATGGTCTGCATTACCATTCTGGGTGATGGCAGCTGTGCTCT  
147▶ A I V Q A M K A Q V W R Q K R L L Y S K M V C I T I W V M A A V L

**NcoI (1157)** **Bsu36I (1168)**  
1101 GCACCCAGAAATCCTGTACAGTCAAGTCAAGTGGGAAATCTGGTATTGCCACATGTACCATGGTCTACCCTAAGGATAAGAATGCCAAGCTAAAGTCAGC  
180▶ C T P E I L Y S Q V S G E S G I A T C T M V Y P K D K N A K L K S A  
1201 TGTCTTATCCTGAAGGTCACCTTGGGGTTTTCTCCCTTTATGGTCATGGCCTTCTGCTATACCATCATCATTACATCCTTGGTACAGGCCAAGAAG  
213▶ V L I L K V T L G F F L P F M V M A F C Y T I I I H T L V Q A K K

**EcoO109I (1313)**  
1301 TCATCCAAGCACAAAGGCCTCAAGGTGACCATCACTGTCTCACTGTCTTATTATGTCTCAGTTCCTTACAACCTCATTCTGTAGTGCAGGCTGTTG  
247▶ S S K H K A L K V T I T V L T V F I M S Q F P Y N S I L V V Q A V

**SspI (1441)**  
1401 ACGTTATGCCATGTTTCTCAACTGCACTATTTCCACCAATATTGACATCTGCTTCCAGGTTACTCAGACTATTGCATTCTTCCACAGTTGTCTGAA  
280▶ D A Y A M F I S N C T I S T N I D I C F Q V T Q T I A F F H S C L N

**NsiI (1569)**  
1501 CCCAGTCTCTATGTTTTTGTGGCGAGAGATTCCGAAGGGATCTGGTGAAGACCCTGAAGAACCCTGGGATGCATTAGCCAGGCCAGTGGGTTTCATTC  
313▶ P V L Y V F V G E R F R R D L V K T L K N L G C I S Q A Q W V S F

**HindIII (1621)** **NdeI (1689)**  
1601 ACAAGGAGAGAGGGTAGCTTGAAGCTTTCTTCTATGCTACTGGAGACAACTTCGGGGGCTCTCCCTATGAGAGAATTCTCACAGGCATATGGTCTCT  
347▶ T R R E G S L K L S S M L L E T T S G A L S L •

**MscI (1707)**  
1701 TGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCT

**HpaI (1839)** **MfeI (1850)**  
1801 ATTGCTTATTTGTAACCATTATAAGCTGCAATAAACAAAGTTAAACAACAATTGCATTCAATTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTT

**EcoRI (1935)**  
1901 TTTAAAGCAAGTAAAACCTCTACAAATGTGGTATGGAATCTAAAATACAGCATAGCAAACTTTAACCTCCAATCAAGCCTCTACTGAACTCTTTTC  
2001 TGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGATTT

**SapI (2117)** **SspI (2174)** **SwaI (2188)**  
2101 TCCAAGGTTTGAAGTCTTCTCATTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTGTAGTAAATATTCAGAAAATATTTAAATACAT

**EcoO109I (2249)**  
2201 CATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTGTAGTGGACTTAGGGAACAAAGG

2301 AACCTTTAATAGAAATGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCT  
141▶ • N R T Y K L P I L E E I T T K V L K

**SacI (2449)** **BstXI (2478)**  
2401 TGCCATTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCAC  
122▶ G N 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  
2501 CTCATCAGAGTAGGGGCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCAGCACAGACAGTG  
89▶ E D 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

**StuI (2613)**  
 2601 ACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGTCCTGATGGCCGCCCGACATGGTGCTTGTTCCTCATAGAGCA  
 55 V R 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

**XmnI (2755)**  
 2701 TGGTGATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTA  
 22 T I K E T A V E V L E L D Q Q S I N F T K M

**AseI (2821)** **SacI (2878)**  
 2801 TGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCACATAACGAGCTCTGCTTATATAGACCTC

**SpeI (2976)**  
 2901 CCACCGTACACGCCTACCGCCATTGCGTCAATGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAAACAACTCCCATTG  
 3001 ACGTCAATGGGGTGGAGACTTGGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGA

**SnaBI (3104)**  
 3101 CTAATACGTAGATGACTGCCAAGTAGGAAAGTCCCATAAGGTCATGACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGG

**NdeI (3209)**  
 3201 CGTACTTGGCATATGATACACTTGTACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACT

**PacI (3395)**  
**PstI (3388)**  
**SdaI (3387)**  
 3301 ATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTACGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCTGCAGGTTAAT  
 3401 TAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCTTCTGCGCTTTTCCATAGGCTCCGCCCCCTGACGAGCATCAC  
 3501 AAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCCTGGAAGCTCCCTCGTGCCTCTCCTGTTCCGA  
 3601 CCTGCCGCTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGT

**ApaLI (3719)**  
 3701 TCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTACGCCGACCGCTGCGCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGAC  
 3801 TTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACA  
 3901 CTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAACCACCGCTGGTAG  
 4001 CGGTGGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGGAAAC

**EagI (4155)**  
**PacI (4135)** **SwaI (4144)** **NotI (4154)**  
 4101 GAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGCAATAAAATATCTTTATTTTCATTACATCTGTGTGTTGG  
 4201 TTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAAATAGGCTGTCCCCAGTGCAAGTGCAGGTGCC  
 4301 AGAACATTTCTCTATCGAA