



**PvuI (7)**  
**SgfI (6)**
**MfeI (82)**

1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA

101 GAGAAGGTGGCGCGGGGTAAACTGGAAAAGTATGTCGTGTACTGGCTCCGCTTTTTCCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

---

**HindIII (245)**

**Psp1406I (203)**
**PvuII (239)**
**Bsu36I (291)**

201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCCTTACCGCGCCGCCCTACCTGAGGCC

301 GCCATCCACGCCGGTTGAGTCGCGTTTCTGCCGCTCCCGCTGTGGTGCCTCCTGAATGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

---

**NgoMIV (441)**

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTGCCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

---

**XcmI (560)**  
**NcoI (560)**

**BstEII (555)**

**AgeI (552)** **BstXI (560)** **SmaI (598)**

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGCGCTACCTGAGATCACCGGTCACCATGGTGGTGGTGGCAGCCGCGCCGAACCCGCGCCGACGG

1▶ M V V V A A A P N P A D G

**NgoMIV (655)**  
**SfiI (654)**

601 GACCCCTAAAGTTCTGCTTGTGCGGGCAGCCCGCTCCGCCCGGAGCCCGGCCGAGCCCGGCCGAGCCCTGCCGCTCATGGTGCAGCCAGAGAGGGGCC

13▶ T P K V L L L S G Q P A S A A G A P A G Q A L P L M V P A Q R G A

**BssHII (733)**

701 AGCCCGGAGGCAGCGAGCGGGGGCTGCCCCAGGCGCAAGCGACAGCGCCTCACGCACCTGAGCCCGAGGAGAAGGCGCTGAGGAGGAACTGAAAA

47▶ S P E A A S G G L P Q A R K R Q R L T H L S P E E K A L R R K L K

801 ACAGAGTAGCAGCTCAGACTGCCAGAGATCGAAAGAAGGCTCGAATGAGTGAAGCTGGAACAGCAAGTGGTAGATTTAGAAGAAGAGAACCAAAAACCTTT

80▶ N R V A A Q T A R D R K K A R M S E L E Q Q V V D L E E E N Q K L L

**Eco47III (965)**

901 GCTAGAAAATCAGCTTTTACGAGAGAAAACATGGCCTTGTAGTTGAGAACCAGGAGTTAAGACAGCGCTTGGGGATGGATGCCCTGGTTGTGAAGAG

113▶ L E N Q L L R E K T H G L V V E N Q E L R Q R L G M D A L V A E E

**PstI (1078)**  
**ApaLI (1070)** **BstAPI (1080)**

1001 GAGGCGGAAGCCAAGGGGAATGAAGTGAGGCCAGTGGCCGGTCTGCTGAGTCCGCGCACTCAGACTACGTGCACCTCTGCAGCAGGTGCAGGCCAGT

147▶ E A E A K G N E V R P V A G S A E S A A L R L R A P L Q Q V Q A Q

**NcoI (1123)** **EcoRV (1164)** **Tth11II (1194)**

1101 TGTCACCCCTCCAGAACATCTCCCATGGATTCTGGCGGTATTGACTCTTTCAGATTGAGTCTGATATCCTGTTGGGCATTCTGGACAACCTGGACCCA

180▶ L S P L Q N I S P W I L A V L T L Q I Q S L I S C W A F W T T W T Q

1201 GTCATGTTCTTCAAATGCCCTTCCCGAGGCTGCCAGCCTGGAGGAGCTCCAGAGGTCTACCCAGAAGGACCCAGTTCTTACCAGCCTCCCTTTCTC

213▶ S C S S N A L P Q S L P A W R S S Q R S T Q K D P V P Y Q P P F L

**XmnI (1341)** **AseI (1335)** **NheI (1378)**

1301 TGTCAGTGGGGACGTCATCAGCCAAGCTGGAAGCCATTAATGAACTAATTCGTTTTGACCACATATATACCAAGCCCCGTAGCTGGCCAGACATGATAA

247▶ C Q W G R H Q P S W K P L M N •

1401 GATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCGTGAAGGAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTAT

---

**HpaI (1516)** **MfeI (1527)**

1501 AAGCTGCAATAAACAAGTTAACAACAACAATTGCATTCATTTATGTTTCAGGTTTCAGGGGGAGGTGGGAGGTTTTTAAAGCAAGTAAACCTCTAC

---

**EcoRI (1612)**

1601 AAATGTGGTATGGAATCTAAAATACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGC

---

**SapI (1794)**

1701 ATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGAGTAAAGATATAGTGTATTTCCCAAGGTTTGAACCTAGCTCTT

---

**SspI (1851)** **SwaI (1865)**

1801 CATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTGTAGTAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTT

1901 TTTATTAGCAGAATCCAGATGCTCAAGGCCCTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAGAACCTTTAATAGAAATGGACAG

---

2001 CAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCATTCTCAATGAGCACA

141▶ • N R T Y K L P I L E E I T T K V L K G N M E I L V

**BstXI (2155)**

2101 AAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGA

114▶ 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 S Y P H R V

2201 CAGCCACAATGGTGTCAAAGTCTTCTGCCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAAT  
81 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 G I Y A E I  
2301 GTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGTCTTGTCTCATAGAGCATGGTGTCTTCTCAGTGGCGACC  
48 H V A S I I E G T K T R I A A G V H K N D E Y L M T I K E T A V

**BbsI (2436)**  
XmnI (2432) AseI (2498)

2401 TCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGAT  
14 E V L E L D Q Q S I N F T K M  
2501 TAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCCTAAACGAGCTCTGCTTATATAGACCTCCCACCGTACACGCCTACCGCCCA

**SpeI (2653)**

2601 TTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAAACAACTCCCATTGACGTCAATGGGGTGGAGACTGG

**SnaBI (2781)**

2701 AAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTAAGTCCGCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTAAGTCCAA

**NdeI (2886)**

2801 GTAGGAAAGTCCCATAGGTCATGTAAGTCCGCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTAAGTCCAA  
2901 GATGTAAGTCCCATAGGTCATGTAAGTCCGCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTAAGTCCAA

**PacI (3072)**  
PstI (3065) **SdaI (3064)** **BspLU11I (3082)**

3001 CGTCAATGGGGCGGGGTCGTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCTGCAGGTTAATAAGAACATGTGAGCAAAAGGCC  
3101 AGCAAAAGGCCAGGAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAG  
3201 GTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCGTGGAAAGCTCCCTCGTGGCTCTCTGTTCCGACCTGCCGCTTACCGGATACCTG

ApaI (3396)

3301 TCCGCTTTCTCCCTTCGGGAAGCGTGGCGTTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTGTTTCGCTCCAAGTGGGCTGTGTGC  
3401 ACGAACCCCGTTCAGCCGACCGCTGCGCTTATCCGGTAACTATCGTCTTGTAGTCCAACCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCAC  
3501 TGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATC  
3601 TCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTATCCGGCAAAACAAACCCGCTGGTAGCGGTGTTTTTTTGTGTGCAAGC  
3701 AGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCTTTGATCTTTTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTT

**PacI (3812) SmaI (3821) NotI (3831)**

3801 GGTGATGGCTAGTTAATTAACATTTAATCAGCGGCCGCAATAAAATATCTTATTTTATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAA  
3901 CATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCGAGTCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA