



**PvuI (7)**  
**SgfI (6)** 1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGCAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTCGGCAATTGAACGGGTGCCTA  
**MfeI (82)** **EcoNI (96)**  
101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

**Psp1406I (203)** **HindIII (245)** **Bsu36I (291)**  
201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACACGCCGCCGCCCTACCTGAGGCC  
**EcoNI (287)**  
301 GCCATCCACGCCGGTTGAGTCGCGTTTCTGCCGCTCCCGCCTGTGGTGCTCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

**NgoMIV (441)**  
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTAACTCTACGCTTTTGTTCGTTT

**NcoI (560)** **BstEII (555)**  
501 TCTGTTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGCCCTACCTGAGATCACCGGTACCATGGGGCATGGGCCATGCTGTATGGAGTCTCGATGCT  
**AgeI (552)** 1▶ M G A W A M L Y G V S M L

**AvrII (612)** **PshAI (610)**  
601 CTGTGTGCTGGACCTAGGTGAGTGTAGTTGAGGAGCCTGGCTGTGGCCCTGGCAAGTTTCTGAGAACGGAAGTGGCAACAACACTCGCTGCTGCAGC  
13▶ C V L D L G Q P S V V E E P G C G P G K V Q N G S G N N T R C C S

**BglII (785)** **BstAPI (782)**  
701 CTGTATGCTCCAGCAAGGAGGACTGTCCAAAAGAAAGTGCATATGTGTACACCTGAGTACCCTGTGGAGACCTCAGTGAAGATCTGCAAGCACT  
47▶ L Y A P G K E D C P K E R C I C V T P E Y H C G D P Q C K I C K H

**NcoI (872)**  
801 ACCCTGCCAACCAGGCCAGAGGTGGAGTCTCAAGGGATATTGTGTTGGCTTCCGGTGTGTTGCCTGTGCCATGGGCACCTTCTCCGCAGGTCGTGA  
80▶ Y P C Q P G Q R V E S Q G D I V F G F R C V A C A M G T F S A G R D  
901 CGTCACTGCAGACTTTGGACCAACTGTTCTCAGTTTGGATTTCTCACCATGTTCCCTGGGAACAAGACCACAATGCTGTGTGCATCCCGGAGCCACTG  
113▶ G H C R L W T N C S Q F G F L T M F P G N K T H N A V C I P E P L

**NsiI (1050)** **SphI (1048)**  
1001 CCCACTGAGCAATACGGCCATTTGACTGTCATCTTCTGGTTCATGGCTGCATGATTTTCTTCTAACCACAGTCCAGCTCGGCCTGCACATATGGCAGC  
147▶ P T E Q Y G H L T V I F L V M A A C I F F L T T V Q L G L H I W Q

**BspLU11I (1112)** **Bsu36I (1186)**  
1101 TGAGGAGGCAACACATGTGTCCCGAGAGACCCAGCCATTGCGGAGGTGCAAGTTGTCAGCTGAGGATGCTTGCAGTTCAGTTCCCTGAGGAGGAACG  
180▶ L R R Q H M C P R E T Q P F A E V Q L S A E D A C S F Q F P E E E R

**MseI (1240)** **StuI (1248)** **BbsI (1255)** **NheI (1274)**  
1201 CGGGGAGCAGACAGAAGAAAAGTGCATCTGGGGGTGCGGTGGCCATGAGGCCTGGTCTTCTCTGTGCCCAAGCTAGCTGGCCAGACATGATAAGATA  
213▶ G E Q T E E K C H L G G R W P •  
1301 CATTGATGAGTTTGGACAACCACAACCTAGAATGCAGTAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGC

**HpaI (1412)** **MfeI (1423)**  
1401 TGCAATAACAAGTTAACAACAACAATTGCATTCAATTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAT

**EcoRI (1508)**  
1501 GTGGTATGGAATTCTAAAATACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCA

**SapI (1690)**  
1601 GGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGTATTTTCCCAAGGTTTGAAGTACTCTTCATT

**SspI (1747)** **SwaI (1761)**  
1701 TCTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTTTAGTAAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTA

**EcoO109I (1822)**  
1801 TTAGGCAGAAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAGGAACCTTTAATAGAAATTGGACAGCAAG  
1901 AAAGCGAGCTTCTAGCTTTAGTCTCTGGTGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGTTGCCATTCTCAATGAGCACAAAGC  
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 F C

**SacI (2022)** **BstXI (2051)**  
2001 AGTCAGGAGCATAGTCAGAGATGAGCTCTGTCACATGCCACAGGGGCTGACCACCCTGATGGATCTGCCACCTCATCAGAGTAGGGTGCCTGACAGC  
113▶ 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 A

**StuI (2186)**  
2101 CACAATGGTGTCAAAGTCTTCTGCCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCAGCACAGACAGTACCCTGCCAATGTAGGCCTCAATGTGG  
80▶ 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 H  
2201 ACAGCAGAGATGATCTCCCACTTGGTCTGATGGCCGCCGACATGGTGTCTGTTGCTCATAGAGCATGGTGTCTTCTCAGTGGCGACCTCCA  
46▶ 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 K E T A V E V

**BbsI (2332)** **XmnI (2328)** **AseI (2394)**  
2301 CCAGCTCCAGATCCTGCTGAGAGATGTTGAAGTCTTCATGGTGGCCCTCTATAGTGTGATTACTATGCCGATATACTATGCCGATGATTAAT  
13▶ L E L D Q Q S I N F T K M

2401 **TGTC**AAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCATAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTG  
SacI (2451)

2501 CGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCGTTGATTT**ACTAGT**CAAAACAAACTCCCATTGACGTCAATGGGGTGGAGACTTGAAAT  
SpeI (2549)

2601 CCCCCTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAG  
SnaBI (2677)

2701 GAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCTACTTGCCATATGATACACTTGATG

2801 TACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTC

2901 AATGGGCGGGGTCGTTGGGCGGTCAGCCAGGCGGGCCATTTACCGTAAGTTATGTAAC**CGCTGCAGGTTAA**TTAAGAACATGTGAGCAAAAGGCCAGCA  
SdaI (2960) PacI (2968) BspLU11I (2978)

3001 AAAGGCCAGGAACCGTAAAAAGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGG

3101 CGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCTGGAAGCTCCCTCGTGCGCTCTCTGTTCCGACCCTGCCGCTTACCGGATACCTGTCCG

3201 CCTTTCTCCCTTCGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGA  
ApaLI (3292)

3301 ACCCCCCGTTCCAGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGT

3401 AACAGGATTAGCAGAGCGAGGTATGTAGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCG

3501 CTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTGGTTTGAAGCAGCA

3601 GATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAACGAAAACCTCACGTTAAGGGATTTTGGTC

3701 ATGGCTAGTTAATTAACATTTAAATC**AGCGGCCG**CAATAAAATATCTTTATTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATA  
PacI (3708) SwaI (3717) EagI (3728) NotI (3727)

3801 CGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAAATAGGCTGTCCCAAGTCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA