



**PvuI (7)**  
**SgfI (6)** MfeI (82) EcoNI (96)  
1 GGATCTGGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA  
101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

**HindIII (245)** **Bsu36I (291)**  
**Psp1406I (203)** PvuII (239) EcoNI (287)  
201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACACGCCGCCCGCCCTACCTGAGGCC  
301 GCCATCCACGCCGGTTGAGTGCCTGTTGCGCCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

**NgoMIV (441)**  
401 GGGCCTTTGTCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTAACTCTACGCTTTTGTTCGTTT

**XcmI (560)**  
**NcoI (560)**  
BstEII (555)  
**AgeI (552)**  
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTACCATGGGGCACTGGGGCTGGAGGGCAGGGGTGGGAGGCT  
1 M G A L G L E G R G R L

**NheI (621)** BstXI (638) BstEII (648)  
601 CCAGGGGAGGGTTCCCTCCTGCTAGCTGTGGCAGGAGCCACTTCTCTGGTGACCTTGTGTGCGGTGCCTATCACTGTCTGGCTGTGCTGGCCTTA  
13 Q G R G S L L L A V A G A T S L V T L L L A V P I T V L A V L A L

EagI (734) XmaI (742)  
701 GTGCCCCAGGATCAGGGAGGACTGGTAAACGGAGACGGCCGACCCCGGGCACAGGCCAGCAAGGACTGGGGTTTCAGAAGCTGCCAGAGGAGGAGCCAG  
47 V P Q D Q G G L V T E T A D P G A Q A Q Q G L G F Q K L P E E E P

**BglII (804)** XmaI (814) PvuII (824)  
801 AAACAGATCTCAGCCCCGGGCTCCAGCTGCCACCTCATAGGCGCTCCGCTGAAGGGCAGGGGCTAGGCTGGGAGACGACGAAGAACAGGCGTTTCT  
80 E T D L S P G L P A A H L I G A P L K G Q G L G W E T T K E Q A F L

BsrBI (903)  
901 GACGAGCGGGACGAGTTCTCGGACGCCGAGGGCTGGCGCTCCCGCAGGACGGCCTTATTACCTCTACTGTCTCGTCCGCTACCGGGCCGGCGCCC  
113 T S G T Q F S D A E G L A L P Q D G L Y Y L Y C L V G Y R G R A P

**SmaI (1010)**  
EcoO109I (1010) BsrBI (1023) **FspI (1037)** **XhoI (1096)**  
1001 CCTGGCGGGGGACCCCGGGGCGCTCGGTACGCTGCGCAGCTCTCTGTACCGGGCGGGGGCGCCTACGGGCCGGGCACCTCCGAGCTGCTGCTCG  
147 P G G G D P Q G R S V T L R S S L Y R A G G A Y G P G T P E L L L

**BspEI**  
1101 AGGGCCCGAGACGGTACTCCAGTCTGACGCTGGACCCGGCCAGGAGACAAGGGTACGGCCTCTCTGGTACACGAGCGTGGGGTTCCGGCGCCTGGTGCAGCT  
180 E G A E T V T P V L D P A R R Q G Y G P L W Y T S V G F G G L V Q L

**NruI (1253)** BbsI (1263)  
1201 CCGGAGGGGGCAGAGGGTGTACGTCACATCAGTACCCCGATATGGTGGACTTCGCGAGAGGGAAAGACCTTCTTTGGGGCCGTGATGGTGGGGTGGGG  
213 R R G E R V Y V N I S H P D M V D F A R G K T F F G A V M V G •

**AvrII (1308)** **MscI (1320)**  
1301 AATATGAGCCTAGGCTAGCTAGCCAGACATGATAAGATACATTGATGAGTTGGACAAACCACAACCTAGAATGCAGTAAAAAATGCTTTATTGTGA

**HpaI (1452)** MfeI (1463)  
1401 AATTTGTGATGCTATTGCTTTATTGTAACCATTATAAGCTGCAATAACAAGTTAACAACAACAATTGCATTATTATGTTTCAGGTTCCAGGGGGAG

**EcoRI (1548)**  
1501 GTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCTAAATACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTAC  
1601 TTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGACGCTCACCTTCTTTCATGGAGTTAAG

**SspI (1787)**  
1701 ATATAGTGATTTTCCCAAGGTTGAAGTACTGCTCTTCATTTCTTTATGTTTTAAATGCAGTACCTCCACATTCCCTTTTATGATAAATATTGAGAAT

SwaI (1801) EcoO109I (1862)  
1801 AATTTAAATACATCATTGCAATGAAATAAATGTTTTTTATTAGGCAGAAATCCAGATGCTCAAGGCCCTCATAATATCCCCAGTTTAGTAGTTGGACT  
1901 TAGGGAACAAAGGAACCTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTCTCTGGTACTTGGGGGATGAGTTCCTCAATGGT  
144 • N R T Y K L P I L E E I T

SacI (2062) BstXI (2091)  
2001 GTTTTGACCAGCTTGCCATTCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGACATGCCACAGGGGCTGACCACCTGA  
126 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 P S V V R I  
2101 TGGATCTGTCCACTCATCAGAGTAGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCAATGGCAATGGCTTC  
93 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 G I A I A E

**StuI (2226)**  
2201 AGCACAGACAGTACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCGAGTCTTGGTCTGATGGCCGCCCGACATGGTCTTGTG  
60 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 G V H H K N

**BspHI (2376)**  
BbsI (2372)  
2301 TCCTCATAGAGCATGGTATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGCTTTCATGATGGCCCTCTATAGTGAG  
26 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

2401 TCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCT TATCTGACGGTTCCTAAACGAGCTCTG  
AseI (2434) SacI (2491)

2500 CTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAA  
SpeI (2589)

2599 AACAACTCCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTA CTG CCAAAACCGCATCATCA

2699 TGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGGGGCCATTTACCGTCATT  
SnaBI (2717)

2799 GACGTCAATAGGGGGCGTACTTTGGCATATGATACACTTGTACTGCTCAAGTGGGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTC  
NdeI (2822)

2899 CCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGGGGGGTCTGTTGGCGGT CAGCCAGGGGGCCATTTACCGTAAGTTATGTAA

2999 CGCCTGCAGGTTAA TTAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGGCCGTTGCTGGCGTTTTCCATAGGCTCCGCC  
PstI (3001) SdaI (3000) PacI (3008) BspLU11I (3018)

3097 CCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCTGGAAGCTCCCTCGT

3197 GCGCTCTCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCTCACGCTGTAGGTATCTC

3297 AGTTCGGTGTAGGTGCTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTT CAGCCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCA  
ApaLI (3332)

3397 ACCCGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTG

3497 GCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAA

3597 CAAACCACCGCTGGTAGCGGTGGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGT

3697 CTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCGCAATAAAATATCTTTATTTTCA  
EagI (3768) PacI (3748) SmaI (3757) NotI (3767)

3797 TTACATCTGTGTGGTTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCA

3897 GTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA