



**PvuI (7)**  
**SgfI (6)** MfeI (82) EcoNI (96)  
1 GGATCTGCGATCGCTCCGGTGCCCGTCAGTGGGCAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA  
101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

**Psp1406I (203)** HindIII (245) **Bsu36I (291)**  
PvuII (239) EcoNI (287)  
201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACAGCGCCCGCCGCTACCTGAGGCC  
301 GCCATCCACGCGGTTGAGTGCAGTCTGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)  
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTGGCTGACCCTGCTTGTCTAACTCTACGTCTTTGTTTCGTTT

**AgeI (552)**  
501 TCTGTTCTGCGCGGTTACAGATCCAAGCTGTGACCGGCGCCTACCTGAGATCACCGGTAGGAGGCCATCATGTCTCAGAGCAACCGGGAGCTGGTGGTT  
1 M S Q S N R E L V V

HindIII (615) PvuII (635) EcoO109I (676)  
601 GACTTTCTCTCCTACAAGCTTTCCAGAAAGGATACAGCTGGAGTTCAGTTAGTGATGTGGAAGAGAAACAGGACTGAGGCCCAAGGGACTGAATCGG  
11 D F L S Y K L S Q K G Y S W S Q F S D V E E N R T E A P E G T E S

**SacII (757)** **XmaI (799)**  
701 AGATGGAGACCCCACTGCCATCAATGGCAACCCATCCTGGCACCTGGCAGACAGCCCGGGTGAATGGAGCCACTGCCACAGCAGCAGTTTGGATGC  
44 E M E T P S A I N G N P S W H L A D S P A V N G A T G H S S S L D A

**NcoI (814)** **Eco47III (833)** **Acc65I (868)**  
801 CCGGGAGGTGATCCCATGGCAGCAGTAAAGCAAGCGCTGAGGGAGGCAGGCGACGAGTTGAACTGCGGTACCGGCGGCATTCACTGACCTGACATCC  
77 R E V I P M A A V K Q A L R E A G D E F E L R Y R R A F S D L T S  
901 CAGCTCCACATCACCCAGGACAGCATATCAGAGCTTTGAACAGGTAGTGAATGAACCTTCCGGGATGGGGTAAACTGGGGTGCATTGTGCCCTTTT  
111 Q L H I T P G T A Y Q S F E Q V V N E L F R D G V N W G R I V A F

**DraIII (1015)**  
1001 TCTCCTTCGGCGGGGCACTGTGTGGAAAGCGTAGACAAGGAGATGCAGGTATTGGTGGTGGATCGCAGCTTGGATGGCCACTTACCTGAATGACCA  
144 F S F G G A L C V E S V D K E M Q V L V S R I A A W M A T Y L N D H

**BamHI (1111)**  
1101 CCTAGAGCCTTGGATCCAGGAGAACGGCGGCTGGGATACTTTTGTGGAACCTATGGGAACAATGCAGCAGCCGAGAGCCGAAAGGGCCAGGAACGCTTC  
177 L E P W I Q E N G G W D T F V E L Y G N N A A A E S R K G Q E R F

NgoMIV (1230) EcoRI (1270)  
1201 AACCGTGGTTCTGACGGGCATGACTGTGGCCGGCGTGGTTCTGTTGGCTCACTCTTCAGTCGGAATGAATTGCTAGCTGGCCAGACATGATAAGA  
211 N R W F L T G M T V A G V V L L G S L F S R K •  
1301 TACATTGATGAGTTTGGACAAACCAACTAGAATGCAGTGAATAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAA

**HpaI (1414)** MfeI (1425)  
1401 GCTGCAATAAACAAGTTAAACAACAATTGCATTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAA

EcoRI (1510)  
1501 ATGTGGTATGGAATCTAAAATACAGCATAGCAAACTTTAACCTCCAATCAAGCCTCTACTTGAATCCTTTCTGAGGGATGAATAAGGCATAGGCAT

**SapI (1692)**  
1601 CAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTCTTTTCATGGAGTTTAAAGATAGTGTATTTTCCAAGGTTTGAAGTGCCTTTCA

**SspI (1749)** SwaI (1763)  
1701 TTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTTAGTAAATATTGAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTT

EcoO109I (1824)  
1801 TATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGAACCTTTAATAGAAATTGGACAGCA  
1901 AGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGGGGGATGAGTTCTCAATGGTGGTTTTGACCAGCTTGCCATTCATCTCAATGAGCACAAA  
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

**SacI (2024)** **BstXI (2053)**  
2001 GCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACA  
114 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

**StuI (2188)**  
2101 GCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGT  
80 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 H  
2201 GGACAGCAGAGATGATCTCCCGAGTCTGGTCTGATGGCCGCCCCGACATGGTGTCTTGTCTCATAGAGCATGGTGTCTCTCAGTGGCGACCTC  
47 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

**BspHI (2338)**  
**BbsI (2334)**  
**XmnI (2330)** **AseI (2396)**  
2301 CACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGCTTCATGATGGCCCTCTATAGTGAGTCGATTATACTATGCCGATATACTATGCCGATGATTA  
14 V L E L D Q Q S I N F T K M

**SacI (2453)**  
2401 ATTGTCAAACAGCGTGATGGCGTCTCCAGCTTATCTGACGGTCACTAAACGAGCTCTGTTATATAGACCTCCACCGTACACGCTACCGCCATT

2501 TCGGTC AATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAAACAAACTCCCATTGACGTCAATGGGGTGGAGACTTGGAA  
SpeI (2551)  
←

2601 ATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGT  
SnaBI (2679)

2701 AGGAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGA  
NdeI (2784)

2801 TGTACTGCCAAGTGGGCAGTTTACCCTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACG

2901 TCAATGGGCGGGGTCGTTGGGCGGTCAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCTGCAGGTTAATTAAAGAACATGTGAGCAAAGGCCAG  
PstI (2963)  
SdaI (2962)  
PacI (2970)  
BspLU11I (2980)  
←

3001 CAAAAGGCCAGGAACCGTAAAAAGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCAGAAAAATCGACGCTCAAGTCAGAGGT  
 3101 GGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCCTGGAAGCTCCCTCGTGGCTCTCCTGTTCCGACCCTGCCGTTACCGGATACCTGTC

3201 CGCCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCAC  
ApaLI (3294)

3301 GAACCCCGTTCAGCCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTG  
 3401 GTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTG  
 3501 CGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGTTTTTTTGTGTTGCAAGCAG  
 3601 CAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAACGAAAACCTCACGTTAAGGGATTTTGG

EagI (3730)  
PacI (3710) SwaI (3719) NotI (3729)

3701 TCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGAATAAAATATCTTTATTTTTCATTACATCTGTGTGTTGTTTTTGTGTGAATCGTAACTAACA  
 3801 TACGCTCTCCATCAAACAAAACGAAACAAAACAAACTAGCAAATAGGCTGTCCCAGTGAAGTGCAGGTGCCAGAACATTTCTCTATCGAA