



**PvuI (7)**  
**SgfI (6)** 1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA  
**MfeI (82)** **EcoNI (96)**  
101 GAGAAGGTGGCGGGGTAACGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

**Psp1406I (203)** **HindIII (245)** **Bsu36I (291)**  
201 GTGAACGTTCTTTTTTCGCAACGGGTTTGGCCGAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACAGCGCCCGCCGCTACCTGAGGCC  
**EcoNI (287)**  
301 GCCATCCACGCCGGTTGAGTCGCGTTTCTGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

**NgoMIV (441)**  
401 GGGCCTTTGTCGGCGCTCCCTTGAGCGCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTAACTCTACGCTTTTGTTCGTTT

**KasI (535)** **AgeI (552)** **SphI (560)** **ScaI (592)**  
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTCAGCATGCAAGCATTCTTAAAGGTACATCCATCAGTACTAA  
1 M Q A F L K G T S I S T K  
601 ACCCCGCTGACCAAGGATCGAGGAGTAGCTGCCAGTGCGGGAAGTAGCGGAGAGAACAAGAAAGCCAAACCGTTCCCTGGTGGAAAAATATCGCCCA  
13 P P L T K D R G V A A S A G S S G E N K K A K P V P W V E K Y R P

**BglIII (768)**  
701 AAATGTGTGGATGAAGTTGCTTCCAGGAAGAAGTGGTTCAGTGTCTGAAAAATCTTTAGAAGGAGCAGATCTTCTAATCTCTTGTTTTACGGACCAC  
47 K C V D E V A F Q E E V V A V L K K S L E G A D L P N L L F Y G P

**BstXI (818)** **NsiI (887)**  
801 CTGGAAGTGGAAAAACATCCACTATTTGGCAGCAGCTAGAGAACTTTTGGGCTGAACTTTCCGATTAAGAGTTCTTGTAGTTAAATGCATCTGATGA  
80 P G T G K T S T I L A A A R E L F G P E L F R L R V L E L N A S D E  
901 ACGTGAATACAAGTAGTTCCAGAGAAAGTAAAAATTTGCTCAATTAAGTGTCTCAGGAAGTGCCTCAGATGGGAAGCCGTGTCGCCCTTTAAGATT  
113 R G I Q V V R E K V K N F A Q L T V S G S R S D G K P C P P F K I

**NotI (1058)**  
1001 GTGATTCTGGATGAAGCAGATTCTATGACCTCAGCTGCTCAGGAGCTTTAAGACGTACCATGGAGAAGGAGTCGAAAACCCGATTCTGTCTTATCT  
147 V I L D E A D S M T S A A Q A A L R R T M E K E S K T T R F C L I

**XbaI (1135)**  
1101 GAACTATGTGAGTGAATAAATGAACCCCTGACCTCTAGATGTTCAAATCCGCTTCAAGCCTCTGTGAGATAAAATTAACAGCAGCGATTACTAGA  
180 C N Y V S R I I E P L T S R C S K F R F K P L S D K I Q Q Q R L L D  
1201 CATTGCCAAGAAGAAAAATGCAAAATAGTGTGAGGGAATAGCTTATCTTGTAAAGTGTGAGAAGGAGACTTAAGAAAAGCCATTACATTTCTTCAA  
213 I A K K E N V K I S D E G I A Y L V K V S E G D L R K A I T F L Q

**Eco47III (1300)**  
1301 AGCGTACTCGATTAACAGGTGGAAAGGAGATCACAGAGAAAGTATTACAGACATTGCCGGGTAATACCAGCTGAGAAAATTGATGGAGTATTTGCTG  
247 S A T R L T G G K E I T E K V I T D I A G V I P A E K I D G V F A  
1401 CCTGTGAGAGTGGCTTTTTGACAACTAGAAGCTGTGGTCAAGGATTAATAGATGAGGGTGCATGCAGCAACTCAGCTCGTCAATCAACTCCATGATGT  
280 A C Q S G S F D K L E A V V K D L I D E G H A A T Q L V N Q L H D V

**BstAPI (1576)**  
1501 GGTTGTAGAAAAAATACTTATCTGATAAACAGAAGTCTATTATCACAGAAAAAATTGCCGAAGTTGACAAATGCCTAGCAGATGGTGTGATGAACATTTG  
313 V V E N N L S D K Q K S I I T E K L A E V D K C L A D G A D E H L

**HpaI (1649)** **NheI (1675)** **MscI (1681)**  
1601 CAACTCATCAGCCTTTGTGCAACTGTGATGCAGCAGTATCTCAGAATTGTTAACCGTGAATATATCTGGATGGGGCTAGCTGGCCAGACATGATAAGAT  
347 Q L I S L C A T V M Q Q L S Q N C •  
1701 ACATTGATGAGTTTGACAAACCACAAC TAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAG

**HpaI (1813)** **MfeI (1824)**  
1801 CTGCAATAACAAGTTAAACAACAACAATTGCATTCATTTATGTTTCAGGTTCCAGGGGAGGTGTGGGAGTTTTTTAAAGCAAGTAAAACCTCTACAAA

**EcoRI (1909)**  
1901 TGTGGTATGGAATTCTAAAATACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATC

**SapI (2091)**  
2001 AGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTTAAAGATATAGTGTATTTTCCCAAGTTTGAAGTACTCTTCAT

**SspI (2148)** **SwaI (2162)**  
2101 TTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTATAGTAAATATTCAGAATAATTTAAATACATCATTGCAATGAAAAATAATGTTTTTT

**EcoO109I (2223)**  
2201 ATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTGTAGTGTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATTGGACAGCAA

2301 GAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCATTCTCAATGAGCACAAAG  
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 (2423)** **BstXI (2452)**  
2401 CAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAG  
113 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 A

**StuI (2587)**  
2501 CCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTACCCTGCCAATGTAGGCCTCAATGTG  
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

2601 GACAGCAGAGATGATCTCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGTCTTGTGCTCATAGAGCATGGTATCTTCTCAGTGGCGACCTCC  
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

BbsI (2733)  
XmnI (2729) AseI (2795)

2701 ACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGTCTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAA  
13 V L E L D Q Q S I N F T K M

SacI (2852)

2801 TTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTCACTAAACGAGCTCTGCTTATATAGACCTCCCACCGTACACGCCTACCGCCCATTT

SpeI (2950)

2901 GCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCCTTGATTTACTAGTCAAAAACAACTCCATTGACGTCAATGGGGTGGAGACTTGAAAA

SnaBI (3078)

3001 TCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTA

NdeI (3183)

3101 GGAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGAT

3201 GTACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCAATTATTGACGT

PacI (3369)  
PstI (3362)  
SdaI (3361) BspLU11I (3379)

3301 CAATGGGGGGGGTCTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAATTATGTAACGCGTGCAGGTTAATTAAGAACATGTGAGCAAAAGGCCAGC  
3401 AAAAGGCCAGGAACCGTAAAAAGCGCGTTGCTGGCGTTTTTTCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTG  
3501 GCGAAACCCGACAGGACTATAAAGATACCAGCGTTTTCCCTGGAAGCTCCCTCGTGCCTCTCTGTTCCGACCCTGCCGTTACCGGATACCTGTCC

ApaLI (3693)

3601 GCCTTTCTCCCTTCGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTTCGCTCCAAGCTGGGCTGTGTGCACG  
3701 AACCCCGTTCAGCCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGG  
3801 TAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAAGTATTTGGTATCTGC  
3901 GCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTGTGTTGCAAGCAGC  
4001 AGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGAACGAAAACCTCACGTAAAGGGATTTTGGT

EagI (4129)  
PacI (4109) SwaI (4118) NotI (4128)

4101 CATGGCTAGTTAATTAACATTTAAATCAGCGGCCGCAATAAAATATCTTTATTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACAT  
4201 ACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA