



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

101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

**Psp1406I (203)** **HindIII (245)** Bsu36I (291) EcoNI (287)  
201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACACGGCCCGCCCTACCTGAGGGCC

301 GCCATCCACGCGGTTGAGTGCAGTTCGCCGCTCCCGCCTGTGGTGCCTCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

**NgoMI (441)** **NaeI (441)**  
401 GGGCCTTTGTCCGGCGCTCCCTTGAGAGCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGTCTTTGTTTCGTTT

**KasI (535)** **BspEI (558)** NcoI (566)  
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCGCTACCTGAGATCACCGGCTCCGGACACCATGGATCGCCACTCCAGCTACTTCTTCATCTG

601 GCTGCAGCTGGAGCTCTGCGCCATGGCTGTGCTGCTCACAAAGGAGAGATCAGATGCTACTGTGATGCTGCTCACTGTGTGGCAACAGGTTACATGTGT

11▶ L Q L E L C A M A V L L T K G E I R C Y C D A A H C V A T G Y M C  
701 AAGTCTGAGCTTAGTGCCTGCTTCTCCAGACTTCTCGATCCTCAGAACACCAATTCTCCACTACCCACGGCTGCTGGACTCACTTGAAGCACGGCAG

45▶ K S E L S A C F S R L L D P Q N T N S P L T H G C L D S L A S T A

**XcmI (822)** **XcmI (842)**  
801 ACATCTGCCGAGCCAAACAGGCCAAAACCACTCTGGCCCTGCCATGCCACTTTGGAATGCTGTACGAAGACATGTGCAATTATCGAGGACTGCATGA

78▶ D I C R A K Q A Q N H S G P A M P T L E C C H E D M C N Y R G L H D

**Bsu36I (926)** **AgeI (941)**  
901 CGTCTCTCTCCTTCCAAGAGCGAAGCCTCAGGACAAGGAAACCGGTATCAGCATGACAGCAGCAGAAAATCTCATCACTAAGATGCAGGAGCTGACTTCC

111▶ V L S P S K S E A S G Q G N R Y Q H D S S R N L I T K M Q E L T S

**BstBI (1094)** **AsuII (1094)**  
1001 TCCAAAGAACTGTGGTTCGCGCAGCTGTGATAGCGGTTCCCATGCTGGCGGACTGATCTTGGTGTGCTCATTATGTTGGCCTTGGCAATGCTTCGAA

145▶ S K E L W F R A A V I A V P I A G G L I L V L L I M L A L R M L R

**BsrBI (1123)**  
1101 GTGAGAACAAGAGGCTGCAGGATGAGCGGCAGCAGATGCTGTCCCGTCTGCACTACAGCTTTACGGACACCATTCCAAGAAGGGGCAAGTTGCAAAGTT

178▶ S E N K R L Q D E R Q Q M L S R L H Y S F H G H S K K G Q V A K L  
1201 GGACTTGGAGTGCATGGTGCCTGTGCTGAGGAGCAAGCAACTGCTGTGACCTGTGACAAAATCGGCAAGCAGACTCAGTAATGAGAAGATCCTCTCC

211▶ D L E C M V P V S G Q E N C C L T C D K M R Q A E L S N E K I L S

**NdeI (1344)** **MscI (1395)**  
1301 CTTGTGCACTGGGCGATGACAGTGGTCATGGAAGTCAAGTTCATGACAGTCACTGCTGAACTATAAATGGAACCCCTGAAGGCCGCTAGCTGGCC

245▶ L V H W G M Y S G H G K L E F I •

1401 AGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTT

**HpaI (1527)** MfeI (1538)  
1501 GTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAATTGCATTCTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGTTTTTTAAAGCAAGT

**EcoRI (1623)**  
1601 AAAACCTCTACAAATGTGGTATGGAATTCATAAATACAGCATGCAAACTTTAACCTCCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAAT

1701 AAGGCATAGGCATCAGGGGCTGTGCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTTAAGATATAGTGTATTTCCCAAGGTTTG

**SspI (1862)** SmaI (1876)  
1801 AACTAGCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTTAGTAAAATATTCAGAAAATAATTTAAATACATCATTGCAATGAA

**EcoO109I (1937)**  
1901 AATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAG

2001 AAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCATCT

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

**BstXI (2166)**  
2101 CAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGTGCACATGCCACAGGGGCTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTA

118▶ 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 S R D V E D S Y  
2201 GGGTGCCTGACAGCCCAATGGTGTCAAAGTCTTCTGCCGCTTGTCTACAGCAGACCAATGGCAATGGCTTCAGCACAGACAGTACCCTGCCAATG

85▶ 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 A C V T V R G I

**StuI (2301)**  
2301 TAGGCCTCAATGTGGACAGCAGAGATGATCTCCCGCTTGGTCTGATGGCCGCCCGACATGGTCTTGTGCTCCTCATAGAGCATGGTGTCTTCT

51▶ 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 D E Y L M T I K E

**Eco147I (2301)** **BspHI (2451)**  
2401 CAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGTCTTCATGATGGCCCTCTATAGTGAAGTCTATTATACTATGCCGATATACT

18▶ T A V E V L E L D Q Q S I N F T K M

VspI (2509)  
AseI (2509)  
2501 ATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCCACCGTACACG

SpeI (2664)  
2601 CCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCC GTTGATTTACTAGTCAAACAAACTCCCATTGACGTCAATGGG

SnaBI (2792)  
Eco105I (2792)  
2700 GTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAG

NdeI (2897)  
2800 ATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCA

2900 TATGATACTTGTGACTGCTCAAGTGGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATA

SdaI (3075) PacI (3083)  
3000 CGTCATTATTGACGTCAATGGGGCGGGTCTGTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCTGCAGGTTAA TTAAGAACAT

3098 GTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGA

3198 CGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTTCCCTGGAAGCTCCCTCGTGCCTCTCCTGTTCCGACCTGCCGC

3298 TTACCGGATACCTGTCCGCTTTCTCCCTTCGGAAGCGTGGCGCTTTCTCATAGCTCAGCTGTAGGTATCTCAGTTCGGTGTAGGTGTTCCGCTCCAA

ApaLI (3407)  
3398 GCTGGGCTGTGTGCACGAACCCCCGTTAGCCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAAACCCGTAAGACACGACTTATCGCCA

3498 CTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAA

3598 CAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTT

3698 TTTTGTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTCTACGGGGTCTGACGCTCAGTGGAAACGAAAACTCA

EagI (3843)  
PacI (3823) SwaI (3832) NotI (3842)  
3798 CGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCGCAATAAAAATATCTTTATTTTCATTACATCTGTGTGTTGGTTTTTTGTG

3898 TGAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCCAGTGCAAGTGACAGGTGCCAGAACATTT

3998 CTCTATCGAA