



**PvuI (7)**  
**SgfI (6)**
**EcoNI (96)**

1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTCGGCAATTGAACGGGTGCCTA

101 GAGAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

**Psp1406I (203)**
**HindIII (245)**
**Bsu36I (291)**  
**PvuII (239)**
**EcoNI (287)**

201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACAGCGCCCGCCCTACCTGAGGCC

301 GCCATCCACGCGGTTGAGTCGCGTTCTGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

**NgoMIV (441)**  
**NaeI (441)**

401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGTCTTTGTTTCGTTT

**NcoI (560)**  
**BstEII (555)**  
**KasI (535)**
**AgeI (552)**
**BglIII (588)**

501 TCTGTTCTGCGCGGTTACAGATCCAAGCTGTGACCGCGGCTACTCTGAGATCACCGGTACCATGGACACAGAAAATAGGAGCAGAGCAGATCTTGCTCT

1▶ M D T E N R S R A D L A L

**ApaLI (623)**
**XcmI (673)**

601 CCCAAATCCACAAGAATCCTCCAGTGCACCTGACATTGAACTCTTGAAGCATCTCCTGCCAAAGCAGCCCCACAAAGCAGACATGGCGGACATTTTTG

13▶ P N P Q E S S S A P D I E L L E A S P A K A A P P K Q T W R T F L

701 AAGAAAGATTGGAGTTCCTGGGAGCAACAAATCTGGTTGGTTTGATGCTCTTGGTTTGAACAATTGCTGCTCCGACTCTATGTTTCAGACT

47▶ K K E L E F L G A T Q I L V G L I C L C F G T I V C S V L Y V S D

801 TTGATGAAGAAGTCTTTACTTTATAAACTAGGCTATCCATTCTGGGGTGCAGTGTGTTTGGTTTGTCTGGATTTTGTCAATTATCTCCGAAAGAAA

80▶ F D E E V L L L Y K L G Y P F W G A V L F V L S G F L S I I S E R K

**PstI (956)**

901 AAACACATTGTATCTGGTGAAGGAGCAGCCTGGGAGCAAACATTGTGAGTGCATCGTGCAGGACGGGGATGCCATGCTGATCCTCAATCTGACCAAT

113▶ N T L Y L V R G S L G A N I V S S I A A G T G I A M L I L N L T N

**BstXI (1067)**

1001 AACTTCGCTTATATGAACAACCTGCAAGAATGTAACCGAAGACGACGGCTGCTTTGGGCTTTTCCACACAGAACTGGTGTGATGATGCTGTTTCTCA

147▶ N F A Y M N N C K N V T E D D G C F V A S F T T E L V L M M L F L

**EcoO109I (1169)**

1101 CCATCCTGGCCTTTTGCAGTGTGTGTTGTTCACTATCTATAGGATTGGACAAGAGTTAGAAAGTAAAAAGTCCCAGATGATCGTCTTTATGAAGAATT

180▶ T I L A F C S A V L F T I Y R I G Q E L E S K K V P D D R L Y E E L

**MscI (1297)**

**NheI (1291)**

1201 AAATGTGTATTACCAATTTACAGTGAAGTGGAAAGACAAAGGGGAAACATCTTCTCCAGTTGATTGATAAGAATCAGGGGACCAGGACAATGCTAGCTGG

213▶ N V Y S P I Y S E L E D K G E T S S P V D S •

1301 CCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTAT

**HpaI (1429)**

1401 TTGTAACCATTATAAGCTGCAATAAACAAGTTAACAACAACAATTGCATTCTTTTATGTTTCAGGTTTCAGGGGAGGTGTTGGAGGTTTTTAAAGCAA

**EcoRI (1525)**

1501 GTAAAACCTTACAAATGTGGTATGGAATCTAAAATACAGCATAGCAAACTTTAACCTCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGA

1601 ATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTCTTTTCATGGAGTTTAAAGATATAGTATTTTCCCAAGGTT

**SspI (1764)**
**Swal (1778)**

1701 TGAAGTACTCTTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTTAGTAAAATATTCAGAAATAATTTAAATACATCATTGCAATG

**EcoO109I (1839)**

1801 AAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAAT

1901 AGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAGGGGATGAGTTTCTCAATGGTGGTTTTGACCAGCTTGCCATTCAT

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

**SacI (2039)**
**BstXI (2068)**

2001 CTCAATGAGCACAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGACATGCCACAGGGGCTGACCACCTGATGGATCTGTCACCTCATCAGAG

119▶ 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 S R D V E D S

2101 TAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCAATGGCAATGGCTTACGACAGACAGTGACCCTGCCAA

85▶ 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 A C V T V R G I

**StuI (2203)**

2201 TGTAGGCTCAATGTGGACAGCAGAGATGATCTCCAGTCTTGGTCTGATGGCCGCCCGACATGGTCTTGTGTCCTCATAGAGCATGGTATCTT

52▶ 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

**BspHI (2353)**

**XmnI (2345)**

2301 CTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGCTTCATGATGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATA

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

**AseI (2411)**
**SacI (2468)**

2401 CTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTATCTGACGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACA

2501 CGCCTACCGCCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAAACAAACTCCCATTGACGTCAATG  
SpeI (2566)  
←

2600 GGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGT  
SnaBI (2694)

2700 AGATGTACTGCCAAGTAGGAAAGTCCCATAAAGTCAATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGG  
NdeI (2799)

2800 CATATGATACACTTGATGTACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACA

2900 TACGTCATTATTGACGTCAATGGGGCGGGTCTGTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCCTGCAGGTTAA TTAAGAAC  
PstI (2978)  
SdaI (2977)  
PacI (2985)  
BspLU11I  
←

2998 ATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGGCGTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATC

3098 GACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCTGGAAAGTCCCTCGTGCCTCTCCTGTTCCGACCCTGCC

3198 GCTTACCGGATACCTGTCCGCTTTCTCCCTTCGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCC

3298 AAGCTGGGCTGTGTGCACGAACCCCCGTTAGCCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGC  
ApaLI (3309)

3398 CACTGGCAGCAGCCACTGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAG

3498 AACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAACCACCGCTGGTAGCGGTGGT

3598 TTTTTTGTGGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGAACGAAAACT

3698 CACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCGCAATAAAATATCTTTATTTTCATTACATCTGTGTGGTTTTTTG  
PacI (3725)  
SwaI (3734)  
EagI (3745)  
NotI (3744)

3798 TGTGAATCGTAACATAACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCAGTGCAAGTGCAGGTGCCAGAACAT

3898 TTCTCTATCGAA