



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

**HindIII (245)** Bsu36I (291)  
**Psp1406I (203)** PvuII (239) EcoNI (287)  
201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCCTTACAGCGCCCGCCGCCCTACCTGAGGCC  
301 GCCATCCACGCGGTTGAGTCGCGTTTCTGCCGCTCCCGCCTGTGGTGCCCTCTGAAGTGCCTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

**NgoMIV (441)**  
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCGCTACCTAGACTCAGCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

**NcoI (560)**  
**BstEII (555)**  
**KasI (535)** **AgeI (552)** **PshAI (570)**  
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCGCTACCTGAGATCACCGGTCACCATGGAGAGGACCTTGTCTGTCTGGTAGTCATCTTCTT  
1 M E R T L V C L V V I F L

**Tth111I (653)** PvuII (682)  
601 GGGGACAGTGGCCATAAATCAAGCCCCAAGGGCCAGATCGCCTCCTGATTAGACTTCGTACCTTATTGACATTGTTGAACAGCTGAAAATCTATGAA  
13▶ G T V A H K S S P Q G P D R L L I R L R H L I D I V E Q L K I Y E

**BstAPI (760)**  
**BamHI (708)** **SphI (756)**  
701 AATGACTTGGATCCTGAACCTTCTATCAGCTCCACAAGATGTAAGGGGCACTGTGAGCATGCAGCTTTTGCCTGTTTTGAGAAGGCCAAACTCAAGCCAT  
47▶ N D L D P E L L S A P Q D V K G H C E H A A F A C F Q K A K L K P  
801 CAAACCTGGAAACAATAAGACATTCATCATTGACCTCGTGGCCAGCTCAGGAGGAGCTGCCTGCCAGGAGGGGAGAAAGAAACAGAAGCACATAGC  
80▶ S N P G N N K T F I I D L V A Q L R R R L P A R R G G K K Q K H I A

**EcoRI (943)**  
901 TAAATGCCCTTCTGTGATTTCGTATGAGAAAAGGACACCCAAAGAATTCCTAGAAAGACTAAAATGGCTCCTTCAAAGATGATTATCAGCATCTCTCC  
113▶ K C P S C D S Y E K R T P K E F L E R L K W L L Q K M I H Q H L S

**BamHI (1029)** **MscI (1041)**  
**Bsu36I (1024)** **NheI (1035)**  
1001 TAGAACACATAGGACCCGAAGATTCTGAGGATCCGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACAGAAATGCAGTG  
147▶ •

**HpaI (1173)** MfeI (1184)  
1101 AAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAACAAATGCATTCAATTT

**EcoRI (1269)**  
1201 ATGTTTCAGGTTCAAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCTAAAATACAGCATAGCAAACTTTA  
1301 ACCTCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCA

**SapI (1451)**  
1401 CCTCTTTTCATGGAGTTTAAAGATATAGTGTATTTTCCCAAGGTTTGAAGTACTAGCTCTTCAATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTT

**SspI (1508)** **Swal (1522)**  
1501 TTTAGTAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATC  
1601 CCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTACTTGGAGG  
141▶ • N R T Y K L

**SacI (1783)**  
1701 GGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCATTCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGC  
133▶ P I L E E I T 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

**BstXI (1812)**  
1801 CACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGC  
100▶ C P S V V R I 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

**StuI (1947)**  
1901 AGACCCAATGGCAATGGCTTTCAGCACAGACAGTACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAAGTCTTGGTCTGATGGCC  
67▶ S G I A I A E 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

**BbsI (2093)**  
**XmnI (2089)**  
2001 GCCCGACATGGTCTTGTGCTCCTCATAGAGCATGGTGTCTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCA  
33▶ A G V H H K N 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

**AseI (2155)**  
2101 TGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTIATCTGAC  
0▶

**SacI (2212)**  
2201 GGTTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTC

**SpeI (2310)**  
2301 CCGTTGATTTACTAGTCAAAACAAACTCCATTGACGTCAATGGGGTGGAGACTTGGAAATCCCGTGGAGTCAAACCGCTATCCACGCCATTGATGTAC

2401 TGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGACTGCCAAGTAGGAAAGTCCATAAGGTCATGTA CTGACTGGGCATAATGCCAGG  
**SnaBI (2438)**

2501 CGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGTGTA CTGACTGCCAAGTGGGCGAGTTTACCGTAAATACTCCACCA  
**NdeI (2543)**

2601 TTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCAATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGT CAGCCAGGCGGGCCA

2701 TTTACCGTAAGTTATGTAACGCCTGCAGGTTAATTAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGCCGCGTTGCTGGCGTT  
**PacI (2729)**  
**PstI (2722)**  
**SdaI (2721)**  
**BspLU11I (2739)**

2801 TTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCC  
←

2901 CCTGGAAGCTCCCTCGTGCCTCTCCTGTTCCGACCCTGCCGCTTACCGGATACCTGTCCGCCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCT

3001 CACGCTGTAGGTATCTCAGTTCGGTGTAGGTGCTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTT CAGCCCGACCGCTGCGCCTTATCCGGTAA  
**ApaLI (3053)**

3101 CTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACA

3201 GAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTA

3301 GCTCTTGATCCGGCAAACAACCCGCTGGTAGCGGTGGTTTTTTTTGTTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTT

3401 GATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCGCAATA  
**EagI (3489)**  
**PacI (3469)** **Swal (3478)** **NotI (3488)**

3501 AAATATCTTTATTTTATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGC

3601 AAAATAGGCTGTCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA