



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

1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA  
 101 GAGAAAGTGGCGGGGTAAGTGGAAAGTGATGTCGTGTAAGTGGTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

**Psp1406I (203)**
**HindIII (245)**
**Bsu36I (291)**

201 GTGAACGTTCTTTTTCGCAACGGGTTTCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACCGCGCCCGCCCTACCTGAGGCC  
 301 GCCATCCACGCGGTTGAGTCGCGTTCTGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

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

401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGTCTTTGTTTCGTTT

**BstEII (555)**
**AgeI (552)**
**SphI (563)**
**Psp1406I (574)**

501 TCTGTTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCCTACCTGAGATCACCGGTACCAGCATGCCCTCAACGTTAGCTTACCAACAGGAACCTA  
 601 TGACTCGACTACGACTCGGTGCAGCCGTATTTCTACTGCGAGGAGGAGAGAACTTCTACCAGCAGCAGCAGAGCGAGCTGCAGCCCGCGGCC  
 12▶ D L D Y D S V Q P Y F Y C D E E E N F Y Q Q Q Q S E L Q P P A P

**XmnI (714)**
**BsrBI (759)**

701 AGCGAGGATATCTGGAAGAAATTCGAGCTGCTGCCACCCCGCCCTGTCCCCTAGCCGCGCTCCGGCTCTGCTCGCCCTCCTACGTTGCGGTACAC  
 46▶ S E D I W K K F E L L P T P P L S P S R R S G L C S P S Y V A V T

**PvuII (856)**
**BstEII (867)**

801 CCTTCTCCCTTCCGGGAGACAACGACGCGGTGGCGGAGCTTCTCCACGCGCCGACAGCTGGAGATGGTGACCGAGCTGCTGGGAGGAGACATGGTGAA  
 79▶ P F S L R G D N D G G G S F S T A D Q L E M V T E L L G G D M V N

**BsrBI (969)**

901 CCAGAGTTTCATCTGCGACCCGGACGACGAGACCTTCATCAAAAACATCATCATCCAGGACTGTATGTGGAGCGGCTTCTCGGCCGCCCAAGCTCGTC  
 112▶ Q S F I C D P D D E T F I K N I I I Q D C M W S G F S A A A K L V

**BssHIII (1027)**
**SacII (1059)**
**SdaI (1095)**

1001 TCAGAGAAGCTGGCTCCTACCAGGCTGCGCGCAAAGACAGCGGAGCCGAACCCCGCGGCCACAGCGTCTGCTCCACCTCCAGCTTGTACCTGC  
 146▶ S E K L A S Y Q A A R K D S G S P N P A R R G H S V C S T S S L Y L  
 1101 AGGATCTGAGCGCCGCGCTCAGAGTGCATCGACCCCTCGGTGGTCTTCCCCTACCTCTCAACGACAGCAGCTCGCCCAAGTCTGCGCCTCGAAGA  
 179▶ Q D L S A A A S E C I D P S V V F P Y P L N D S S S P K S C A S Q D  
 1201 CTCAGCGCCTTCTCTCCGCTCCTCGGATTCTCTGCTCTCTCAGCGGAGTCTTCCCGCAGGGCAGCCCGAGCCCTGGTGCTCCATGAGGAGACCCG  
 212▶ S S A F S P S S D S L L S S T E S S P Q G S P E P L V L H E E T P

**ClaI (1348)**

1301 CCCACCACAGCAGCGACTCTGAGGAGGAACAAGAAGATGAGGAAGAAATCGATGTTGTTTCTGTGGAAAAGAGGCAGGCTCCTGGCAAAGGTGAGAGT  
 246▶ P T T C S S D S E E E Q E D E E E I D V V S V E K R Q A P G K R S E  
 1401 CTGGATCACCTTCTGTGGAGGCGACAGCAAACCTCCTCAGCCACTGGTCTCAAGAGGTGCCACGTCTCCACACATCAGCACAACCTACGCGCC  
 279▶ S G S P S A G G H S K P P H S P L V L K R C H V S T H Q H N Y A A P  
 1501 TCCCTCCACTCGGAAGGACTATCCTGCTGCCAAGAGGGTCAAGTTGGACAGTGTGAGAGTCTGAGACAGATCAGCAACAACGAAAAATGCACCAGCCCC  
 312▶ P S T R K D Y P A A K R V K L D S V R V L R Q I S N N R K C T S P  
 1601 AGGTCCTCGACACCGAGGAGAATGTCAAGAGGCGAACACACAACGTCTTGGAGCGCCAGAGGAGGAACGAGCTAAAACGGAGCTTTTTTGCCTGCGTG  
 346▶ R S S D T E E N V K R R T H N V L E R Q R R N E L K R S F F A L R  
 1701 ACCAGATCCCGGAGTTGGAAAACAAATGAAAAGGCCCAAGGTAGTTATCTTAAAAAGCCACAGCATAACCTGTCCGTCCAAGCAGAGGAGCAAAA  
 379▶ D Q I P E L E N N E K A P K V V I L K K A T A Y I L S V Q A E E Q K

**BspEI (1885)**

1801 GCTCATTTCTGAAGAGGACTTGTGCGGAAACGACGAGAACAGTTGAAACACAACTTGAACAGCTACGGAACCTTTGTGCGGAGTCCGGAGGGGGTGGC  
 412▶ L I S E E D L L R K R R E Q L K H K L E Q L R N S C A E S G G G G

**BamHI (1942)**
**MscI (1957)**

**SacII (1938)**
**NheI (1951)**

1901 TCTCCTGGCAGACGTCGTCGCCGAGACGAGCGCCGCGCGGATCCTGAGCTAGTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCA  
 446▶ S P G R R R R R R R R R R R R R G S •

**HpaI (2089)**

2001 CAACTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAAGTTAAACAACA

**MfeI (2100)**
**EcoRI (2185)**

2101 CAATTGCATTCATTTTATGTTTCAGGTTACAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAATGTGGTATGGAATCTAAATACA  
 2201 GCATAGCAAAACTTTAACCTCCAATCAAGCCTCTACTGAACTCTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTGCCAATGTGCATTA  
 2301 GCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGATTTTTCCCAAGGTTTGAAGTACTGCTCTTCAATTTCTTTATGTTTTAAATGCACTGA

**SspI (2424)**
**Swal (2438)**

2401 CCTCCACATTCCCTTTTGTAGAAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAA  
 2501 GGCCCTTCATAATATCCCCAGTTTGTAGTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTT  
 141 • N

**SacI (2699)**

2601 CCTGGTGTACTTGAGGGGATGAGTTCTCAATGGTGGTTTTGACCAGCTTGCCATTCATCTCAATGAGCACAAGCAGTCAGGAGCATAGTCAGAGATG  
 139▶ 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 C D P A Y D S I

**BstXI (2728)**  
 2701 AGCTCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAAAGTCCTTCT  
 105 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 V I T D F D K Q

**StuI (2863)**  
**Eco147I (2863)**  
 2801 GCCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCCAGT  
 72 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 V A S I I E G T  
 2901 CTTGGTCTGATGGCCGCCCGACATGGTGTCTTGTCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACAGCTCCAGATCCTGCTGAGAG  
 39 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 V L E L D Q Q S

**BspHI (3013)** **VspI (3071)**  
**XmnI (3005)** **AseI (3071)**  
 3001 ATGTTGAAGTCTTCATGATGGCCCTCCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGT  
 5 I N F T K M

**SacI (3128)**  
 3101 CTCCAGCTTATCTGACGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTA

**SpeI (3226)**  
 3200 CGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAACAAACTCCCATTGACGTCAATGGGGTGGAGACTTGGAAATCCCCGTGAGTCAAACCGCTAT

**SnaBI (3354)** **Eco105I (3354)**  
 3299 CCACGCCATTGATGTAAGTCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAAGTCATGT

**NdeI (3459)**  
 3399 ACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGTACTGCCAAGTGGGCAGTTTA  
 3499 CCGTAAATACTCCACCCATTGACGTCAATGAAAGTCCCTATTGGCGTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGGC

**SdaI (3637)** **PacI (3645)** **BspLU11I (3655)**  
 3599 GGTCAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCTG C A G G T T A A T T A A G A A C A T G T G A G C A A A A G G C C A G C A A A A G G C C A G G A A C C G T A A A  
 3697 A A G G C C G C G T T G C T G G C G T T T T T C C A T A G G C T C C G C C C C C T G A C G A G C A T C A C A A A A A T C G A C G C T C A A G T C A G A G G T G G C G A A A C C C G A C A G G A C T A T  
 3797 A A G A T A C C A G G C G T T T C C C C T G G A A G C T C C C T G T G C G C T C C T G T T C C G A C C C T G C C G T T A C C G G A T A C C T G T C C G C T T T C T C C T T C G G G A A G

**ApaLI (3969)**  
 3897 CGTGGCGCTTTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTGCTGCTCGCTCAAGCTGGGCTGTGTGCACGAACCCCCGTTCCAGCCGAC  
 3997 CGCTGCGCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGA  
 4097 GGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTAC  
 4197 CTTGGAAGAGGATTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTTGTTTGCAAGCAGCAGATTACGCGCAGAAAAAAA

**NotI (4404)** **PacI (4385)** **Swal (4394)**  
 4297 GGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAACTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACAT

**NotI (4404)**  
 4397 T T A A A T C A G C G G C C G C A A T A A A A T A T C T T T A T T T T C A T T A C A T C T G T G T T G G T T T T T G T G T G A A T C G T A A C T A A C A T A C G C T C T C C A T C A A A A C A A A  
 4497 A C G A A A C A A A A C A A A A C T A G C A A A A T A G G C T G T C C C C A G T G C A A G T G C A G G T G C C A G A A C A T T T C T A T C G A A