



**PvuI (7)**  
**SgfI (6)**  
1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA  
101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

**Psp1406I (203)** **HindIII (245)** **Bsu36I (291)**  
201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTTCACGCGCCCGCCCTACCTGAGGCC  
301 GCCATCCACGCGGGTTGAGTCGCGTTTCTGCCGCTCCCGCTGTGGTGCCTCCTGAAGTCCGCTCCGCCGTCTAGGTAAGTTTAAAGTCAAGTGCAGACC  
401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTACTCACTCTACGCTTTTGTTCGTTT

**NcoI (565)**  
**MluI (558)**  
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGGACGCTACCATTGGGCCACCACCAGCTAGAGTACATCTAGGT  
1▶ M A P P P A R V H L G

**SapI (682)**  
601 GCGTTCCTGGCAGTGACTCCGAATCCCGGAGCGCAGCGAGTGGGACAGAGGCCGCGGCCACACCAGCAAAGTGTGGGGCTCTCCGCGGGGAGGA  
12▶ A F L A V T P N P G S A A S G T E A A A A T P S K V W G S S A G R

**BssHIII (779)**  
701 TTGAACCACGAGGCGGGGCGGAGGAGCGCTCCCTACCTCCATGGGACAGCACGGACCCAGTGCCTGGGCGGGCGAGGGCGGCCCCAGGACCCAGGCC  
45▶ I E P R G G G R G A L P T S M G Q H G P S A R A R A G R A P G P R P

**Eco47III (725)** **NcoI (739)** **Bsp120I (766)** **AscI (778)**  
801 GGC GCGGGAAGCCAGCCCTCGGCTCCGGTCCACAAGACCTTCAAGTTTGTGTCGTCGCGGGTCTCTGTCAGGTCGTACCTAGCTCAGCTGCAACCATC  
78▶ A R E A S P R L R V H K T F K F V V V G V L L Q V V P S S A A T I

**PstI (867)**  
901 AAACCTCATGATCAATCAATTGGCACACAGCAATGGGAACATAGCCCTTTGGGAGAGTTGTGTCCACCAGGATCTCATAGATCAGAACGTCCTGGAGCCT  
112▶ K L H D Q S I G T Q Q W E H S P L G E L C P P G S H R S E R P G A

**BspHI [m] (905)**  
1001 GTAACCGTGCACAGAGGGTGTGGGTTACACCAATGCTTCCAACAATTTGTTTCTTCCATGTACAGCTTGTAAATCAGATGAAGAAGAGAGAAG  
145▶ C N R C T E G V G Y T N A S N N L F A C L P C T A C K S D E E E R S

**ApaLI (1007)** **AgeI (1003)** **BsrGI (1065)**  
1101 TCCCTGCACCAGCAGGAACACAGCATGTGTCAGTGC AAACCAGGAACCTTCCGGAATGACAATCTGCTGAGATGTGCCGGAAGTGCAGCACAGGGTGC  
178▶ P C T T T R N T A C Q C K P G T F R N D N S A E M C R K C S T G C  
1201 CCCAGAGGGATGGTCAAGGTCAAGGATTGTACGCCCTGGAGTGACATCGAGTGTGCCACAAAGAATCAGGCAATGGACATAATATGGGTGATTTTGG  
212▶ P R G M V K V K D C T P W S D I E C V H K E S G N G H N I W V I L

**SandI (1375)**  
1301 TTGTGACTTTGGTTGTTCCGTTGCTGTTGGTGGCTGTGCTGATTGTCTGTTGTTGCATCGGCTCAGGTTGTGGAGGGGACCCCAAGTGCATGGACAGGGT  
245▶ V V T L V V P L L L V A V L I V C C C I G S G C G G D P K C M D R V  
1401 GTGTTTCTGGCGCTTGGGTCTCCTACGAGGGCCTGGGGCTGAGGACAATGCTCACAAAGATCTGAGCAACGACAGACTCGCTGCTCCACTTTCGCTCT  
278▶ C F W R L G L L R G P G A E D N A H N E I L S N A D S L S T F V S

**PshAI (1535)** **BsrGI (1547)**  
1501 GAGCAGCAATGGAAAGCCAGGAGCCGGCAGATTTGACAGGTGTCACTGTACAGTCCCCAGGGGAGGCACAGTGTCTGCTGGGACCGGCAGAAGCTGAAG  
312▶ E Q Q M E S Q E P A D L T G V T V Q S P G E A Q C L L G P A E A E

**BstAPI (1629)**  
1601 GGTCTCAGAGGAGGAGGCTGCTGGTTCAGCAAATGGTGTGACCCACTGAGACTCTGATGCTGTTCTTTGACAAGTTTGCAAACATCGTGCCTTTGA  
345▶ G S Q R R R L L V P A N G A D P T E T L M L F F D K F A N I V P F D

**BspHI (1714)** **ClaI (1746)**  
1701 CTCCTGGGACCAGCTCATGAGGCAGCTGGACCTCACGAAAAATGAGATCGATGTGGTACAGAGCTGGTACAGCAGGCCAGGGGATGCCTTGTATGCAATG  
378▶ S W D Q L M R Q L D L T K N E I D V V R A G T A G P G D A L Y A M  
1801 CTGATGAAATGGTCAACAAAACCTGAGCGGAACGCTCGATCCACACCCTGCTGGATGCCTTGGAGAGGATGGAAGAGAGACATGCAAAAAGAGAAATTC  
412▶ L M K W V N K T G R N A S I H T L L D A L E R M E E R H A K E K I

**MscI (1982)**  
**NheI (1976)**  
1901 AGGACCTCTTGGTGGACTCTGAAAAGTTCATCTACTTAGAAGATGGCACAGGCTCTGCCGTGTCCTTGGAGTGAAGCTAGCTGGCCAGACATGATAAGA  
445▶ Q D L L V D S G K F I Y L E D G T G S A V S L E •

2001 TACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAA

**HpaI (2114)**  
2101 GCTGCAATAACAAGTTAAACAACAATTCATTCATTTATGTTTCAGGTTACAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAA

**EcoRI (2210)**  
2201 ATGTGGTATGGAATCTAAAATACAGCATAGCAAAAACCTTAACTCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCAT

**SapI (2392)**  
2301 CAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTCTTTCATGGAGTTTAAAGATATAGTGATTTTCCCAAGGTTTGAAGTACGCTCTTCA

**SspI (2449)** **Swal (2463)**  
2401 TTTCTTTATGTTTTAAATGACTGACCTCCACATTCCCTTTTGTAGTAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTT

2501 TATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATTGGACAGCA  
2601 AGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCATCTCAATGAGCACAAA  
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 (2724)  
2701 GCAGTCAGGAGCATAGTCAGAGATGAGCTCTCGCACATGCCACAGGGGTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACA  
114 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  
StuI (2888)  
2801 GCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGT  
80 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 Y A E I H  
2901 GGACAGCAGAGATGATCTCCCCAGTCTGGTCCGTGATGGCCGCCCGACATGGTGCTTGTCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTC  
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 (3034)  
3001 CACCAGTCCAGATCCTGCTGAGAGATGTTGAAGTCTTCATGGTGGCCCTCCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTA  
14 V L E L D Q Q S I N F T K M  
AseI (3096)  
3101 ATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTCACTAAACGAGCTCTGCTTATATAGACCTCCACCCTACACGCTACCGCCATT  
SacI (3153)  
3201 TGGTCAATGGGGCGGAGTTGTTACGACATTTGGAAAGTCCCGTTGATTTACTAGTCAAACAAACTCCATTGACGTCAATGGGGTGGAGACTTGAA  
SpeI (3251)  
3301 ATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGACTGCCAAGT  
SnaBI (3379)  
3401 AGGAAAGTCCATAAGGTCTACTGAGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGA  
NdeI (3484)  
3501 TGTAAGTCCAAAGTGGGAGTTTACCGTAAATACTCCACCCATTGACGTCAATGAAAGTCCCTATTGGCGTACTATGGGAACATACGTATTATTGACG  
PacI (3670)  
3601 TCAATGGGCGGGGTCGTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCCTGCAGGTTAAATAAGAACATGTGAGCAAAGGCCAG  
PstI (3663)  
SdaI (3662) BspLU11I (3680)  
3701 CAAAAGGCCAGGAACCGTAAAAAGGCCGTTGCTGGCCTTTTCCATAGGCTCCGCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGT  
3801 GGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCTGGAAGTCCCTCGTGGCTCTCTGTTCCGACCCTGCCCTTACCGGATACCTGTC  
ApaLI (3994)  
3901 CGCCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGAC  
4001 GAACCCCGTTCAGCCGACCGCTGCGCTTATCCGGTAACTATCGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAAGCAGTATTGGTATCTG  
4101 GTAACAGGATTAGCAGAGCGAGGTATGTAGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAAGCAGTATTGGTATCTG  
4201 CGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTATCGGCAACAAACACCGCTGGTAGCGGTGTTTTTTGTTTGAAGCAG  
4301 CAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTGG  
EagI (4430)  
PacI (4410) SwaI (4419) NotI (4429)  
4401 TCATGGCTAGTTAATTAACATTTAAATC AGCGGCCAATAAAATATCTTTATTTTACATTACATCTGTGTGTTGTTTTTTGTGTGAATCGTAACCTAACA  
4501 TACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA