



**PvuI (7)**  
**SgfI (6)** 1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA  
**MfeI (82)** **EcoNI (96)**  
101 GAGAAAGTGGCGGGGTAAGTGGAAAGTGTGCTGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

**Psp1406I (203)** **PvuII (239)** **Bsu36I (291)**  
201 GTGAACGTTCTTTTTGCGAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACAGCGCCCGCCGCTACCTGAGGCC  
301 GCCATCCACGCGGTTGAGTGCAGTCTGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

**NgoMIV (441)**  
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCGCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTAACTCTACGCTTTTGTTCGTTT

**BspHI (560)**  
**AgeI (552)** 501 TCTGTTCTGCGCGGTTACAGATCCAAGCTGTGACCGCGGCTACCTGAGATCACCGGTCATCATGAATTGTAGAGAATTACCCTTGACCTTTGGGTGCT  
1 M N C R E L P L T L W V L

**PstI (614)**  
601 TATATCTGTAAGCACTGCAGAATCTGTACTTCACGTCCACATTACTGTGGTTGAAGGGAAACCTTTCTATCTGAAACATTGCTCGTTCACCTTGCA  
13 I S V S T A E S C T S R P H I T V V E G E P F Y L K H C S C S L A

**BspLU11I (753)** **XhoI (780)**  
701 CATGAGATTGAAACAACCACAAAAGCTGGTACAAAAGCAGTGGATCACAGGAACATGTGGAGCTGAACCCAAGGAGTTCCTCGAGAATTGCTTTGCATG  
47 H E I E T T T K S W Y K S S G S Q E H V E L N P R S S S R I A L H  
801 ATGTGTTTTGGAGTTTTGGCCAGTTGAGTTGAATGACACAGGATCTTACTTTTTCCAAATGAAAAATTATACTCAGAAATGAAATTAATGTCATCAG  
80 D C V L E F W P V E L N D T G S Y F F Q M K N Y T Q K W K L N V I R

**PvuII (912)** **SpeI (937)**  
901 AAGAAATAAACACAGCTGTTTCACTGAAAGACAAGTAAGTAAATTTGGAAGTTAAAAATTTTTTTCAGATAACCTGTGAAAACAGTACTATCAA  
113 R N K H S C F T E R Q V T S K I V E V K K F F Q I T C E N S Y Y Q  
1001 ACACCTGGTCAACAGCACATCATTGTATAAGAACTGAAAAAGCTACTACTGGAGAACAATAAAAAACCAACGATAAAGAAGAAGCCGAGTTTGAAGATC  
147 T L V N S T S L Y K N C K K L L L E N N K N P T I K K N A E F E D  
1101 AGGGGTATTACTCTGCGTGCATTTCTTCATCATAATGGAAAATTTAATATCACAAAACCTTCAATATAACAATAGTGAAGATCGCAGTAATAT  
180 Q G Y Y S C V H F L H H N G K L F N I T K T F N I T I V E D R S N I  
1201 AGTCCGGTCTTCTTGGACCAAAGCTTAACCATGTTGCAGTGAATTAGGAAAAACGTAAGGCTCAACTGCTCTGCTTTGCTGAATGAAGAGAGATGTA  
213 V P V L L G P K L N H V A V E L G K N V R L N C S A L L N E E D V

**BamHI (1332)** **XcmI (1375)** **SphI (1389)**  
1301 ATTTATTGGATGTTGGGGAAGAAAATGGATCGGATCCTAATATACATGAAGAGAAAAGAAATGAGAATTATGACTCCAGAAAGCAAAATGGCATGCTTCAA  
247 I Y W M F G E E N G S D P N I H E E K E M R I M T P E G K W H A S

**SspI (1417)**  
1401 AAGTATTGAGAATTGAAAATATTGGTGAAGCAATCTAAATGTTTTATATAATTGCACTGTGGCCAGCACGGGAGGCACAGACACCAAAAGCTTCATCTT  
280 K V L R I E N I G E S N L N V L Y N C T V A S T G G T D T K S F I L

**EcoRV (1522)**  
1501 GGTGAGAAAAGCAGACATGGCTGATATCCAGGCCACGCTTTCACAAGAGGAATGATCATAGCTGTTTTGATCTTGGTGGCAGTAGTGTGCCTAGTGACT  
313 V R K A D M A D I P G H V F T R G M I I A V L I L V A V V C L V T

**NdeI (1682)**  
1601 GTGTGTGCTATTTATAGAGTTGACTTGGTTCTATTTTATAGACATTTAACGAGAAGAGATGAAACATTAACAGATGAAAAACATATGATGCTTTTGTGT  
347 V C V I Y R V D L V L F Y R H L T R R D E T L T D G K T Y D A F V

**BstXI (1763)** **NsiI (1797)**  
1701 CTTACCTAAAAGAATGCCGACCTGAAAATGGAGAGGAGCACACCTTTGCTGTGGAGATTTTGGCCAGGGTGTGGAGAAAACATTTGGGTATAAGTTATG  
380 S Y L K E C R P E N G E E H T F A V E I L P R V L E K H F G Y K L C  
1801 CATATTTGAAAGGATGTAGTGCCTGGAGGAGCTGTTGTTGATGAAATCCACTACTGATAGAAAAAGCCGAAGACTAATCATTGTCCTAAGTAAAAGT  
413 I F E R D V V P G G A V V D E I H S L I E K S R R L I I V L S K S  
1901 TATATGCTAATGAGGTCAGGTATGAACTGAAAGTGGACTCCATGAAGCATTGGTGGAAAAAGAAAATTAATAATCTTAATTTACACCTGTTA  
447 Y M S N E V R Y E L E S G L H E A L V E R K I K I I L I E F T P V  
2001 CTGACTTCACATTTGCCCCAATCACTAAAGCTTTGAAATCTCACAGAGTCTGAAGTGGAAAGGCCGATAAATCTCTTTCTTATAACTCAAGTTCTG  
480 T D F T F L P Q S L K L L K S H R V L K W K A D K S L S Y N S R F W  
2101 GAAGAACCTTCTTACTTAATGCCTGCAAAAACAGTCAAGCCAGGTAGAGACGAACCGGAAGTCTTGCCTGTTCTTTCCGAGTCTTAATCTTCAGAAACA  
513 K N L L Y L M P A K T V K P G R D E P E V L P V L S E S •

**NheI (2227)**  
2201 GTGAACGCCAAAAAGAACTCAAGATATGCTAGTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAAAAAAT

**HpaI (2365)** **MfeI (2376)**  
2301 GCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAAGTTAAACAACAACAATTGCATTCATTTTATGTTTCA

**EcoRI (2461)**  
2401 GGTTCAAGGGGAGGTGTGGGAGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATCTAAAATACAGCATAGCAAACTTTAACCTCAA  
2501 ATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTGAGCCTCACCTTCTTT

**SapI (2643)**  
2601 CATGGAGTTAAGATATAGTGTATTTCCCAAGTTTGAAGTACTGCTTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTATAGTAA

SspI (2700) SwaI (2714) EcoO109I (2775)  
2701 AATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTT

2801 TAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTTCCTGGTGTACTTGAGGGGGATGAG  
141 • N R T Y K L P I L

2901 TTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCATCTCAATGAGCACAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGG  
131 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 C P

BstXI (3004)  
3001 CTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAAAGTCCTTCTGCCCGTTGCTCACAGCAGACCCAA  
97 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 S G I

3101 TGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGTCTGATGGCCGCCCGAC  
64 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 A G V

BspHI (3289)  
3201 ATGGTGCTTGTTCCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGATGGCC  
31 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

XmnI (3281)  
3301 CTCCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTCACT

AseI (3347)  
3401 AAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCGTTGAT

SacI (3404)  
3501 TTACTAGTCAAAAACAAACTCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAA

SpeI (3502)  
3600 ACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGACTGCCAAGTAGGAAAGTCCCATAAAGTCATGTACTGGCATAATGCCAGGCGGGCCA

SnaBI (3630)  
3700 TTTACCGTCATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCAGTTTACCCTAAATACTCCACCCATTGACGT

NdeI (3735)  
3800 CAATGAAAGTCCCTATTGGCGTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTACGCCAGGCGGGCCATTTACCG

PstI (3914) SdaI (3913) PacI (3921) BspLU11I (3931)  
3900 TAAGTTATGTAACGCCTGCAGGTTAA TTAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGCTGGCGTTTTTCC  
3998 ATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCTGG  
4098 AAGCTCCCTCGTGCCTCTCTGTTCGACCCCTGCCGCTTACCGGATACCTGTCCGCCTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCTCACGC

ApaLI (4245)  
4198 TGTAGGTATCTCAGTTCCGGTGTAGGTGCTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTCCAGCCGACCGCTGCGCTTATCCGGTAACTATC  
4298 GTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGCGGGTGTACAGAGTT  
4398 CTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCT  
4498 TGATCCGGCAACAAACCACCGCTGGTAGCGGTGTTTTTTTTTTTGTTCGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCT

EagI (4681)  
4598 TTTCTACGGGCTGACGCTCAGTGAACGAAACTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCCAATAAAATA  
PacI (4661) SwaI (4670) NotI (4680)

4698 TCTTTATTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAAAT  
4798 AGGCTGTCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA