



**PvuI (7)**  
**SgfI (6)** 1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA

101 GAGAAAGTGGCGCGGGTAAACTGGAAAAGTATGTCGTGACTGGCTCCGCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

**HindIII (245)**  
**Psp1406I (203)** 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTCACGCGCCCGCCGCTACCTGAGGGC

301 GCCATCCACGCCGGTTGAGTCGCGTTCTGCCGCTCCCGCTGTGGTGCCTCCTGAACTGCGTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

**NgoMIV (441)**  
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTGCCTGACCTGCTTCTCAACTCTACGCTTTGTTTCGTTT

**BstEII (555)**  
**AgeI (552)** **NcoI (560)**  
501 TCTGTTCTGCGCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTACCATGGCGGTGCAGGTGGTGAAGCTGTGCAGGCGGTTCA

601 TCTTGTGCTGACGCTTCTAGTTTGTCTCAACCATGCTCTGAGCACAGAAAAGGAGGAAGTATGGGTCTGTGTATAGGGAGTTGAATGATGACATA  
1▶ M A V Q V V Q A V Q A V H  
13▶ L E S D A F L V C L N H A L S T E K E E V M G L C I G E L N D D I

**FspI (737)**  
701 AGGAGTACTCCAAATTTACATACACTGGAACGGAAATGCGCACAGTCCAAGAAAAGATGGATACCATCAGAATTGTTTCATATCCATTCTGTCATCATCT  
47▶ R S D S K F T Y T G T E M R T V Q E K M D T I R I V H I H S V I I

**PvuII (847)**  
801 TGGCGGTTCTGACAAGAAAAGACCGTGTAGAAATTTCTCCAGAGCAGTGTCTGCAGCTTCAACAGAGGCAGAAAAGTTGGCTGAACTAACAGGTCG  
80▶ L R R S D K R K D R V E I S P E Q L S A A S T E A E R L A E L T G R

**BspLU11I (957)**  
901 TCCATGAGAGTTGTTGGCTGGTATCATTCCCACCTCATATAACTGTTTGGCCTTACATGTTGATGTTCTGACACAAGCCATGTACCAATGATGGAT  
113▶ P M R V V G W Y H S H P H I T V W P S H V D V R T Q A M Y Q M M D  
1001 CAAGGCTTTGTAGACTTATTTTTCTGTTTCATAGAAGACAAAAACACAAAGACTGGCCGGTACTCTATACTTGTCTCAATCCATACAAGCCAAA  
147▶ Q G F V G L I F S C F I E D K N T K T G R V L Y T C F Q S I Q A Q  
1101 AAAGCTCAGAGTATGAGAGAATTGAAATCCCAATCCATATTGTACCTCATACTATTGGGAAAGTATGCCTTGAATCTGCAGTAGAGCTGCCAAAAT  
180▶ K S S E Y E R I E I P I H I V P H I T I G K V C L E S A V E L P K I

**NsiI (1220)**  
1201 CCTGTGTCAGGAAGAAGCAGGATGCATATAGAAGGATTCACAGCCTTACACATCTGGACTCAGTGACCAAGATCCATAATGGCTCAGTATTTACCAAGAAT  
213▶ L C Q E E Q D A Y R I H S L T H L D S V T K I H N G S V F T K N  
1301 TTGTGAGTGCAGATGTCAGCAGTCACTGGCCCTACTGAGTGGTTGGAAGACAGATTGGAGCAAACAGCAGCATTGCAAGGAGTTGCAACAAGAAA  
247▶ L C S Q M S A V S G P L L Q W L E D R L E Q N Q Q H L Q E L Q Q E

**MscI (1451)**  
**NheI (1445)**  
1401 AGGAAGAGCTTATGGAAGAGCTGTCTTCCCTAGAATAAAGCATGAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAAC  
280▶ K E E L M E E L S S L E •

**HpaI (1583)** **MfeI (1594)**  
1501 GAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAAGTTAAACAACAATTG

**EcoRI (1679)**  
1601 CATTCAATTTATGTTTCAGGTTCAAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCTAAATACAGCATAG  
1701 CAAAATTTAACCTCAAATCAAGCCTCTACTTGAATCCTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTT  
1801 TGCAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGTATTTCCCAAGGTTTGAAGTCTTTCATTCTTTATGTTTTAAATGCAGTACCTCCC

**SspI (1918)** **Swal (1932)** **EcoO109I (1993)**  
1901 ACATTCCTTTTTAGTAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCT  
2001 TCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTAAATAGAATTTGGACAGCAAGAAAGCGAGCTTCTAGCTTGTAGTTCTGGT  
141▶ • N R T

**SacI (2193)**  
2101 GTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCATTCTCAATGAGCACAAGCAGTCAAGGAGCATAGTCAGAGATGAGCTCT  
137▶ 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 L E

**BstXI (2222)**  
2201 CTGCATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCCGT  
103▶ 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 G N

**StuI (2357)**  
2301 TGCTCACAGCAGACCAATGGCAATGGCTTCCAGCAGACAGTACCCTGCCAATGTAGGCCATATGGGACAGCAGAGATGATCTCCCAGTCTTGGT  
70▶ 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 K T

2401 CCTGATGGCCGCCCCGACATGGTGCTTGTTCCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTG  
37 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 I N

AseI (2565)

2501 AAGGTCTTCATGGTGGCCCTCCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCAG  
3 F T K M

SacI (2622)

2601 CTTATCTGACGGTTCACATAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATT

SpeI (2720)

2701 TTGGAAAGTCCCGTTGATTTACTAGTCAAACAAACTCCATTGACGTCAATGGGGTGAGACTTGAAATCCCGTGAGTCAAACCGCTATCCACGCC

SnaBI (2848)

2801 ATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGCA

NdeI (2953)

2901 TAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACTTGATGTACTGCCAAGTGGGCAGTTTACCGTAAAT

3001 ACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTGACGC

PacI (3139)

SdaI (3131)

BspLU11I (3149)

3101 AGGCGGGCCATTTACCGTAAGTTATGTAACGCTGCAGGTTAATTAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGGCCGCGT

3201 TGCTGGCCTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCA

3301 GCGTTTTCCCTGGAAGCTCCCTCGTGCCTCTCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCCTTTCTCCCTCGGGAAGCGTGGCGCTT

ApaLI (3463)

3401 TCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTGCTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTGAGCCGACCGCTGCGCCT

3501 TATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGG

3601 CGGTGCTACAGAGTCTTGAAGTGGTGGCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTCGAAAA

3701 AGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAG

3801 AAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGGAAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGC

3901 GGCCGCAATAAAATATCTTTATTTTATTACATCTGTGTGTTGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAA

4001 ACAAACTAGCAAAATAGGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA