



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

MfeI (82)  
101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTGTCTGTACTGGCTCCGCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

**HindIII (245)**  
**Psp1406I (203)** 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTCACGCGCCGCCCTACCTGAGGCC  
**PvuII (239)**  
**Bsu36I (291)** 301 GCCATCCACGCCGGTTGAGTCGCGTTTCTGCCGCTCCCGCTGTGGTGCTCTGAACTGCGTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

**NgoMIV (441)**  
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTCAACTCTACGCTTTGTTTCGTTT

**AgeI (552)** **BspHI (560)**  
501 TCTGTTCTGCGCGTTACAGATCCAAGCTGTGACCGCGCTACCTGAGATCACCGGTTCATGAGCCTCCTGTCCAGCCGCGGGCCCGTGTCCCCGG  
1▶ M S L L S S R A A R V P G

**Bsp120I (655)**  
**BssHII (617)** 601 TCCTTCGAGCTCCTTGTGCGCGCTGTTGGTGTCTGTCTGCTGACGCAGCCAGGGCCCATCGCCAGCGCTGGTCTGCCGCTGTGTTGAGAGAG  
**EcoO109I (654)** **Eco47III (667)**  
13▶ P S S S L C A L L V L L L L L T Q P G P I A S A G P A A A V L R E

**XcmI (788)**  
701 CTGCGTTGCGTTTGTTCACAGCCACGCAAGGAGTTATCCAAAATGATCAGTAATCTGCAAGTGTTCGCCATAGGCCACAGTGTCCAAGGTGGAAG  
47▶ L R C V C L Q T T Q G V H P K M I S N L Q V F A I G P Q C S K V E  
801 TGGTAGCCTCCCTGAAGAACGGAAAGAAATTTGTCTTGATCCAGAAGCCCTTTTCTAAAGAAAGTCATCCAGAAAATTTGGACGGTGGAAACAAGGA  
80▶ V V A S L K N G K E I C L D P E A P F L K K V I Q K I L D G G N K E

**MscI (939)**  
**NheI (933)** 901 AAAGTATTAAGAGAAATGAGCACGCATGAAAAGCTAGCTGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAAGTGAATGCAGTGAA  
113▶ N •

**HpaI (1071)** **MfeI (1082)**  
1001 AAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAAACAAGTAAACAACAACAATTGCATTATTTAT

**EcoRI (1167)**  
1101 GTTTCAGTTTCAGGGGAGGTGTGGGAGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCTAAAATACAGCATAGCAAACTTTAAC  
1201 CTCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCAC

**SapI (1349)**  
1301 TTCTTTCATGGAGTTTAAGATATAGTGTATTTCCCAAGGTTTGAAGTACTCTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTT

**SspI (1406)** **SwaI (1420)** 1401 TAGTAAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCC  
**EcoO109I (1481)**  
1501 CCAGTTTAGTAGTTGGACTTAGGGAACAAGGAACCTTAATAGAAATGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAGGGG  
141◀ • N R T Y K L P

1601 GATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCAATGAGCACAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCA  
133◀ 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 (1710)**  
1701 CAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAG  
99◀ 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 S

**StuI (1845)**  
1801 ACCCAATGGCAATGGCTTCCAGCAGACAGTACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTGATGGCCGC  
66◀ 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 A

**BbsI (1991)**  
**XmnI (1987)** 1901 CCCGACATGGTGCTTGTGCTCATAGAGCATGGTGTCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCTGCTGAGAGATGTTGAAGGTCTTCATG  
33◀ 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 (2053)**  
2001 GTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGG  
2101 TTCATAAACGAGCTCTGCTTATATAGACTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCC

**SpeI (2208)**  
2201 GTTGATTTACTAGTCAAAAACAACTCCATTGACGTCAATGGGGTGGAGACTTGGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTG

**SnaBI (2336)**

2301 CAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCCATAAGGTCATGTACTGGCATAATGCCAGGCG

**NdeI (2441)**

2401 GGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCCATT

2501 GACGTCAATGGAAAGTCCTATTGGCGTTACTATGGGAACATACGTCAATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTGAGCCAGGCGGGCCATT

**PacI (2627)**

**PstI (2620)**

**SdaI (2619)**

**BspLU11I (2637)**

2601 TACCGTAAGTTATGTAACGCTGCAGGTTAATTAAGAACATGTGAGCAAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGGCCGCTTGCTGGCGTTTT

2701 TCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCC

2801 TGGAAAGCTCCCTCGTGCCTCTCCTGTTCCGACCCTGCCGCTTACCGGATACCTGTCCGCTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCTCA

**ApaLI (2951)**

2901 CGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTCAGCCCAGCCGCTGCGCCTTATCCGGTAACT

3001 ATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGA

3101 GTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGC

3201 TCTTGATCCGGCAAACAACACCGCTGGTAGCGGTGGTTTTTTTGTGCAAGCAGCAGATTACGGCAGAAAAAAGGATCTCAAGAAGATCCTTTGA

**EagI (3387)**

**PacI (3367) SmaI (3376) NotI (3386)**

3301 TCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCCAATAAA

3401 ATATCTTTATTTTATTACATCTGTGTGTTGGTTTTTTGTGTAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAA

3501 AATAGGCTGTCCCAGTGCAAGTGCAGGTGCCAGAATTTCTCTATCGAA