



**PvuI (7)**  
**SgfI (6)** 1 GGATCTGGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA  
**MfeI (82)**  
101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

**HindIII (245)**  
**Psp1406I (203)** 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACAGCGCCCGCCGCCCTACCTGAGGCC  
**PvuII (239)**  
**Bsu36I (291)**  
301 GCCATCCACGCGGTTGAGTCGCGTTCTGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

**NgoMIV (441)**  
**NaeI (441)**  
401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTCTCAACTCTACGTCTTTGTTTCGTTT

**KasI (535)** 501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCGCTACCTGAGATCACCGGTACCCATGGAAGCCATGAATGTTGAGAAAAGCCTCAGCAGATGG  
**BstEII (555)** 1 M E A M N V E K A S A D G  
**AgeI (552)** HpaI (661)  
601 GAAGTGGCAGAGGTGATCTTAACATCAAGGAGACTCTGAAGATAGTGTCCAGGACACCAAGTAAACATCACTATGGCAGGGGACTCTGGCAATGGGATG  
13 N L P E V I S N I K E T L K I V S R T P V N I T M A G D S G N G M

**BstBI (719)** 701 TCCACCTTATCAGTGCCTTCGAAACACAGGACATGAGGGTAAGGCCTCACCTCCTACTGAGCTGGTAAAAGCTACCCAAAGATGTGCCTCCTATTTCT  
**StuI (743)**  
47 S T F I S A L R N T G H E G K A S P P T E L V K A T Q R C A S Y F

**EcoO109I (827)** 801 CTTCCCACTTTTCAAATGTGGTGTGGGACCTGCCTGGCACAGGGTCTGCCACCACAACCCTGGAGAAGTACCTGATGGAATGCAGTTCAACCGGTA  
**XcmI (851)** 80 S S H F S N V V L W D L P G T G S A T T T L E N Y L M E M Q F N R Y  
**AgeI (893)**  
901 TGACTTCATCATGTTGATCTGCACAATTCAGCATGAATCATGTGATGCTTGCCAAAACCGTGGAGACATGGGAAAGAAGTCTACATTGTCTGGACC  
113 D F I M V A S A Q F S M N H V M L A K T A E D M G K K F Y I V W T  
**XcmI (998)**

**PstI (1048)** 1001 AAGCTAGACATGGACCTCAGCACAGGTGCCCTCCAGAAGTGCAGTACTGCAGATCAGAGAAAATGTCTGGAAAATCTCCAGAAGGAGCGGTATGTG  
**BsrBI (1087)**  
147 K L D M D L S T G A L P E V Q L L Q I R E N V L E N L Q K E R V C

**MscI (1114)** 1101 AATACTAAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAAGTGAATGCAGTGAATAAATGCTTTATTTGTGAAATTTG  
**NheI (1108)**  
180 E Y •

**HpaI (1246)** 1201 TGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAACAACAACAATTGCATTCATTTTATGTTTCAGGTTTCAGGGGGAGGTGTGG  
**MfeI (1257)**

**EcoRI (1342)** 1301 GAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTTAAAATACAGCATAGCAAACCTTTAACCTCCAATCAAGCCTCTACTTGAAT  
1401 CCTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGAGCCTCACCTTCTTTCATGGAGTTAAGATATAG

**SspI (1581)** 1501 TGTATTTTCCAAGGTTTGAAGTACTCTTCAATTTCTTTATGTTTAAATGCAGTGCCTCCACATTCCTTTTATGTAATAATTCAGAAAATAATTTA  
**SwaI (1595)**

**EcoO109I (1656)** 1601 AATACATCATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGA  
1701 ACAAAGGAACCTTAATAGAAAATGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTG  
141 • N R T Y K L P I L E E I T T K

**SacI (1856)** 1801 ACCAGCTTGCCATTCATCTCAATGAGCACAAGCAGTCCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCCTGATGGATC  
124 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 S V V R I S R  
**BstXI (1885)**  
1901 TGTCACCTCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCAGCACA  
91 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 A I A E A C

**StuI (2020)** 2001 GACAGTGACCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGTCTTGTGCTCA  
58 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 H H K N D E

**BspHI (2170)** 2101 TAGAGCATGGTATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGATGGCCCTCTATAGTGAAGTGCAT  
**BbsI (2166)** 24 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 (2162)**

**AseI (2228)** 2201 TATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCACATAAACGAGCTCTGCTTATA  
**SacI (2285)**

**SpeI (2383)** 2300 TAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAAACAAA

2399 CTCCATTGACGTC AATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATGTTAA

**SnaBI (2511)**

2499 TAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAAGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTC

**NdeI (2616)**

2599 AATAGGGGGCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCGAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATT

PstI (2795)  
**SdaI (2794)**

2699 GCGGTTACTATGGGAACATACGTCAATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAAGTTATGTAACGCC T

Pacl (2802) **BspLU11I (2812)**

2798 **G C A G T T A A** TTAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAGGCCGCTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCT

2896 GACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCTGGAAGCTCCCTCGTGGCT

2996 CTCCTGTTCCGACCTGCCGCTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCTCACGCTGTAGGTATCTCAGTTC

**ApaLI (3126)**

3096 GGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTCCAGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCG

3196 GTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTA

3296 ACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAC

3396 CACCGCTGGTAGCGGTGGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGAC

**EagI (3562)**

Pacl (3542) SwaI (3551) **NotI (3561)**

3496 GCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCGCAATAAAATATCTTTATTTTCATTACA

3596 TCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCAGTGCA

3696 AGTGCAGGTGCCAGAACATTTCTCTATCGAA