



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

MfeI (82)  
101 GAGAAGGTGGCGCGGGTAAACTGGAAAAGTGTGCTGTACTGGCTCCGCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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

**PvuII (239)**  
301 GCCATCCACGCCGGTTGAGTCGCGTTTCTGCCGCTCCCGCTGTGGTGCCTCCTGAACTGCGTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

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**NgoMIV (441)**  
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTCTCAACTCTACGCTTTTGTTCGTTT

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**AgeI (552)** **BspHI (560)**  
501 TCTGTTCTGCCCGTTACAGATCCAAGCTGTGACCGCGCTACCTGAGATCACCGGTTCATCATGATGCCTAACATTGCTTTCTAGGCTTCCCTCATCAG

1▶ M M P K H C F L G F L I S  
601 TTTCTTCTTACTGGTGTAGCAGGAACCTCAGTCAACGCATGAGTCTCTGAAGCCTCAGAGGTACAATTTTCAGTCCCAGAAATTTTCAACAATTTTGCAA

13▶ F F L T G V A G T Q S T H E S L K P Q R V Q F Q S R N F H N I L Q  
701 TGGCAGCCTGGGAGGGCACTTACTGGCAACAGCAGTGTCTATTTTGTGCAGTACAAAATCATGTTCTCATGCAGCATGAAAAGCTCTCACCAGAAGCCAA

47▶ W Q P G R A L T G N S S V Y F V Q Y K I M F S C S M K S S H Q K P

**PstI (837)** **BbsI (883)**  
801 GTGGATGCTGGCAGCACATTTCTTGTAACTTCCAGGTGCAGAACATTGGCTAAATATGGACAGAGACAATGAAAAATAAAGAAGACTGTTGGGGTAC

80▶ S G C W Q H I S C N F P G C R T L A K Y G Q R Q W K N K E D C W G T  
901 TCAAGAACTCTTGTGACCTTACCAGTAAAACCTCAGACATACAGGAACCTTATTACGGGAGGGTGAAGGGCGCCTCGGCTGGGAGCTACTCAGAATGG

113▶ Q E L S C D L T S E T S D I Q E P Y Y G R V R A A S A G S Y S E W

**SacII (1009)** **BspHI (1052)** **BstXI (1065)**  
1001 AGCATGACGCCGCGTTCACTCCCTGGTGGGAAACAAAAATAGATCCTCCAGTCATGAATATAACCCAAGTCAATGGCTCTTTGTTGGTAATTCTCCATG

147▶ S M T P R F T P W W E T K I D P P V M N I T Q V N G S L L V I L H  
1101 CTCCAAATTTACCATATAGATACAAAAGGAAAAAATGTATCTATAGAAGATTACTATGAACTACTATACCGAGTTTTTATAATTAACAATTCACCTAGA

180▶ A P N L P Y R Y Q K E K N V S I E D Y Y E L L Y R V F I I N N S L E

**BsrBI (1232)**  
1201 AAAGGAGCAAAAGTTTTATGAAGGGCTCACAGAGCGGTTGAAATTGAAGCTCTAACACCACACTCCAGCTACTGTGTAGTGGCTGAAATATATCAGCCC

213▶ K E Q K V Y E G A H R A V E I E A L T P H S S Y C V V A E I Y Q P

**MscI (1379)**  
1301 ATGTTAGACAGAAGAAGTCAAGAGAGATGTGTGGAAATTCATGACTTGTGGAATTTGGCATTCCGTAGCTGGCCAGACATGATAAGATAC

247▶ M L D R R S Q R S E E R C V E I P •  
1401 ATTGATGAGTTTGACAAACCACAACCTAGAATGCAGTGAAGAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCT

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**HpaI (1511)** **MfeI (1522)**  
1501 GCAATAACAAGTTAAACAACAACAAATTCATTCATTTTATGTTTCAGGTTCCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATG

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**EcoRI (1607)**  
1601 TGGTATGGAATTCTAAAATACAGCATAGCAAACTTTAACCTCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAG

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**SapI (1789)**  
1701 GGGCTGTTGCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTTAAAGATATAGTGTATTTTCCCAAGGTTTGAAGTCTTCTCATT

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**SspI (1846)** **SwaI (1860)**  
1801 CTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTTAGTAAAATATTCAGAAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTAT

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**EcoO109I (1921)**  
1901 TAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGAACCTTTAATAGAAATTGGACAGCAAGA

2001 AAGCGAGCTTCTAGCTTTAGTTCCTGGTACTTGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCAATGAGCACAAGCA

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 C

**SacI (2121)** **BstXI (2150)**  
2101 GTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTCCCTGACAGCC

113▶ 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 A

**StuI (2285)**  
2201 ACAATGGTGTCAAAGTCTTCTGCCCGTTGCTCACAGCAGACCAATGGCAATGGCTCAGCACAGACAGTACCCTGCCAATGTAGGCCTCAATGTGGA

79▶ 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 V  
2301 CAGCAGAGATGATCTCCCGAGTCTTGGTCTGATGGCCGCCCGACATGGTGTCTGTTGCTCCTCATAGAGCATGGTATCTTCTCAGTGGCGACCTCCAC

46▶ 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 V

BbsI (2431) XmnI (2427) AseI (2493)  
 2401 CAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATT  
 13 L E L D Q Q S I N F T K M  
 SacI (2550)  
 2501 GTCAAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTGCG  
 SpeI (2648)  
 2601 GTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAAACAACTCCATTGACGTCAATGGGGTGGAGACTTGAAATC  
 SnaBI (2776)  
 2701 CCCGTGAGTCAAACCGCTATCCACGCCATTGATGTAAGTCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTAAGTCCAAAGTAGG  
 NdeI (2881)  
 2801 AAAGTCCATAAGGTCATGTAAGTCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTAAGTCCAAAGTAGG  
 2901 ACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCAATTATTGACGTCA  
 PacI (3067) PstI (3060) SdaI (3059) BspLU11I (3077)  
 3001 ATGGGCGGGGTCGTTGGGCGGTGACCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCTGCAGGTTAATAAGAACAATGTGAGCAAAAGGCCAGCAA  
 3101 AAGGCCAGGAACCGTAAAAAGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGC  
 3201 GAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCTGGAAGCTCCCTCGTGCCTCTCTGTTCCGACCTGCCGTTACCGGATACCTGTCCGC  
 ApaLI (3391)  
 3301 CTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCAGCTGTAGGTATCTCAGTTCGGTGTAGGTGTTCCGCTCCAAGCTGGGCTGTGTGCACGAA  
 3401 CCCCCGTTCCAGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTA  
 3501 ACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGC  
 3601 TCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGTTTTTTGTTTGAAGCAGCAG  
 3701 ATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCA  
 EagI (3827) PacI (3807) SmaI (3816) NotI (3826)  
 3801 TGGCTAGTTAATTAACATTTAAATCAGCGGCCCAATAAAATATCTTTATTTTATTACATCTGTGTGTTGGTTTTTTGTGTAATCGTAACTAACATAC  
 3901 GCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCAGTGAAGTGCAGGTGCCAGAACATTTCTCTATCGAA