



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

**MfeI (82)**  
101 GAGAAGGTGGCGCGGGTAAACTGGAAAAGTATGTCGTGACTGGCTCCGCCTTTTCCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

**Psp1406I (203)** **HindIII (245)** **Bsu36I (291)**  
201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCCTTCACGGCCCGCCCTACCTGAGGCC

301 GCCATCCACGCCGGTTGAGTCGGTCTGCGCCTCCCGCTGTGGTGCTCCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

**NgoMIV (441)**  
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGCTTTTGTTCGTTT

**KasI (535)** **AgeI (552)** **SphI (560)**  
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTGACGATGCCCTGGAGTCCCCTGGCTGCGCTGAGCTGGGCGCT

**FspI (663)**  
601 GGTGCTGAGGCTGCTGGCTTTGCTGTGGCCCCCTGGACGGGTGAGGCGTGCAGTGTGCGCCTGCGCACCCAGCAGCACTTCTGCCACTCGGCTCTA

13▶ V L R L L A L L W P P G R G E A C S C A P A H P Q Q H F C H S A L  
701 GTGATACGGGCAAAATATCCAGTGAGAAGGTAGTCCCTGCCAGCAAAGACCTGCTGACACTCAAAAAGTATCCGGTATGAAATCAAACAGATAAAGA

47▶ V I R A K I S S E K V V P A S K D P A D T Q K L I R Y E I K Q I K  
801 TGTTTAAAGGTTTCGAGAAGGCAAGGATATTCAGTATGTCTACACGCCATTTGACTTTCCTCTGTGGTGTGAAGCTAGAAACCAACAGTACAAGCA

80▶ M F K G F E K A K D I Q Y V Y T P F D S S L C G V K L E T N S H K Q

**MscI (912)** **BbsI (937)** **EcoO109I (974)**  
901 GTATCTTTTACTGGCCAGATTCTCAGTGATGGAAAAGTCTTCATCCATCTGTGCAACTACATTGAGCCCTGGGAGGACCTGTCTTGGTGCAGAGGGAG

113▶ Y L L T G Q I L S D G K V F I H L C N Y I E P W E D L S L V Q R E

**XcmI (1017)**  
1001 AGCCTGAATCATCACTACCACAGAACTGTGGCTGCCAAATCACTTGTCTATGCACTGACATGACATCTCAGCCCAATGAGTGTCTCTGGACGG

147▶ S L N H H Y H Q N C G C Q I T T C Y A V P C T I S A P N E C L W T

**PstI (1173)**  
1101 ACTGGCTGCTGGAACGGAAGCTCTATGGGTACCAGGCCAGCACTATGTCTGCATGAAGCATGTTGATGGCATCTGCAGCTGGTACCGAGGCCACCTACA

180▶ D W L L E R K L Y G Y Q A Q H Y V C M K H V D G I C S W Y R G H L H

**MscI (1267)**  
**BspEI (1202)** **NheI (1261)**  
1201 CCTCCGGAAGGAGTACGTTGACATCATCCAGCCCTAGTAGGGACCAGGAACCATCCTTGGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTT

213▶ L R K E Y V D I I Q P •

**HpaI (1399)**  
1301 GGACAACCACAAGTGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAAG

**MfeI (1410)** **EcoRI (1495)**  
1401 TTAACAACAACAATTGCATTCATTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTATGGAATT

1501 CTAAAATACAGCATAGCAAACTTAACTCCAATCAAGCCTCTACTGAACTCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCA

**SapI (1677)**  
1601 ATGTGCATTAGCTGTTTGACGCTCACCTTCTTCATGGAGTTAAGATATAGTGTATTTCCCAAGGTTTGAAGTACTCTTCATTTCTTTATGTTTAA

**SspI (1734)** **SwaI (1748)**  
1701 AATGCACTGACCTCCACATTCCTTTTTAGTAAAATATTCAGAAAATATTTAAATACATCATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCC

**EcoO109I (1809)**  
1801 AGATGCTCAAGGCCCTTCATAATATCCCCAGTTAGTAGTTGACTTAGGGAACAAAGAACCTTTAATAGAATTGACAGCAAGAAAGCGAGCTTCT

1901 AGCTTTAGTTCCTGGTGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCATCTCAATGAGCACAAGCAGTCAGGAGCATA

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 D P A Y

**SacI (2009)**  
2001 GTCAGAGATGAGCTCTGCACATGCCACAGGGGTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCA

109▶ 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 V I T D

**StuI (2173)**  
2101 AAGTCTTCTGCCGTTGCTCACAGCAGACCAATGGCAATGGCTTACGACAGACAGTACCTGCAATGTAGGCCTCAATGTGGACAGCAGAGATGA

75▶ 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 A S I I

2201 TCTCCCAGTCTTGGTCTGATGGCCGCCCCGACATGGTGCTTGTTCCTCATAGAGCATGGTGTCTCTCAGTGGCGACCTCCACCAGCTCCAGATC

42▶ 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 L E L D

**BspHI (2323)**  
**BbsI (2319)**  
**XmnI (2315)** **AseI (2381)**  
2301 CTGCTGAGAGATGTTGAAGGCTTCATGATGGCCCTCTATAGTGAGTCGATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGG

9▶ Q Q S I N F T K M

2401 TGGATGGCGTCTCCAGCTTATCTGACGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCG  
SacI (2438)

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2501 GAGTTGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAACAAACTCCCATTGACGTCAATGGGGTGGAGACTTGGAAATCCCCGTGAGTCAA  
SpeI (2536)

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2601 ACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAA  
SnaBI (2664)

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2701 GGTCATGTACTGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGG  
NdeI (2769)

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2801 GCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGT

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2901 CGTTGGCGGTCCAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCTGCAGGTTAATTAAGAACATGTGAGCAAAAGGCCAGAAAAGGCCAGGAAC  
PacI (2955)  
PstI (2948)  
SdaI (2947) BspLU11I (2965)

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3001 CGTAAAAAGGCCGCTTGTGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAG  
BspLU11I (2965)

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3101 GACTATAAAGATACCAGGCGTTTTCCCCCTGGAAGCTCCCTCGTGCGCTCTCTGTTCCGACCCTGCCGCTTACCGGATACCTGTCCGCTTTCTCCCTTC

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3201 GGGAAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTGCTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTCCAG  
ApaLI (3279)

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3301 CCCGACCGCTGCGCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCA

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3401 GAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCC

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3501 AGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTGTGCAAGCAGCAGATTACGCGCAGA  
PacI (3695)

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3601 AAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGGAACGAAAACACGTTAAGGGATTTTGGTCATGGCTAGTTAAT

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3701 TAACATTTAAATCAGCGGCCGCAATAAAAATATCTTTATTTTATTACATCTGTGTGGTTTTTTTGTGTAATCGTAACTAACATACGCTCTCCATCAA  
EagI (3715)  
SwaI (3704) NotI (3714)

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3801 AACAAAACGAAACAAAACAAACTAGCAAAATAGGCTGTCCCCAGTGCAAGTGCAAGTGCCAGAACATTTCTCTATCGAA