



**PvuI (7)**  
**SgfI (6)**

1 GGATCTGCGATCGCTCCGGTGCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTCCGCAATTGAACGGGTGCCTA

101 GAGAAAGTGGCGCGGGTAAACTGGAAAAGTGTCTGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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**HindIII (245)**  
**Bsu36I (291)**  
**Psp1406I (203)**  
**PvuII (239)**  
**EcoNI (287)**

201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTCACGCGCCCGCCCTACCTGAGGCC

301 GCCATCCACGCCGTTGAGTCGCGTTTCTGCCGCTCCCGCTGTGGTGCCTCCTGAAGTGCCTCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

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**NgoMIV (441)**

401 GGGCCTTTGTCCGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTCCTGACCTGCTTCTCAACTCTACGCTTTTGTTCGTTT

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**AgeI (552)** **BspHI (560)**

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTATCATGACAACCTCCAAAAGCACCGAGACTTCGTGGCAGA

1▶ M T T S Q K H R D F V A E

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**NcoI (602)**  
**BbsI (727)**  
**XmaI (782)**  
**MscI (699)**

601 GCCCATGGGGGAGAAGCCAGTGGGGAGCCTGGCTGGGATTGGTGAAGTCTGGGCAAGAAGCTGGAGGAAAGGGTTTTGACAAGGCCTATGTTGCCTT

13▶ P M G E K P V G S L A G I G E V L G K K L E E R G F D K A Y V V L

701 GGCCAGTTTCTGGTGCTAAAGAAAGTGAAGACCTCTCCGGGAATGGCTGAAAGACACTTGTGGCGCAACGCCAAGCAGTCCCGGACTGCTTCGGAT

47▶ G Q F L V L K K D E D L F R E W L K D T C G A N A K Q S R D C F G

MscI (861)

801 GCCTTCGAGAGTGGTGCACGCCTTCTGTGATGCTCTCTGGGAAGCTCTCAATCGCTAGTGGCCAGACATGATAAGATACATTGATGAGTTTGACAA

80▶ C L R E W C D A F L •

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**HpaI (993)**

901 ACCACAAC TAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAACA

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**MfeI (1004)**  
**EcoRI (1089)**

1001 ACAACAATTGCATTCATTTTATGTTTCAGGTTCAAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCTAAAA

1101 TACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGC

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**SapI (1271)**

1201 ATTAGCTGTTTGAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGATTTTTCCAAAGTTTGAAGTACTGCTCTTCATTTCTTTATGTTTTAAATGCA

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**SspI (1328)**  
**Swal (1342)**

1301 CTGACCTCCACATTCCTTTTTAGTAAAATATTCAGAAAATATTTAAATACATCATTGCAATGAAAATAATGTTTTTTATTAGGCAGAATCCAGATGC

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**EcoO109I (1403)**

1401 TCAAGCCCTTCATAATATCCCCAGTTTAGTAGTTGACTTAGGGAACAAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTT

141▶ •

1501 AGTTCCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTTCATCTCAATGAGCACAAGCAGTCAGGAGCATAGTCAGA

140▶ 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 D S

1601 GATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCC

107▶ 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 F D

1701 TTCTGCCGTTGCTCACAGCAGACCCAAATGGCAATGGCTTCAGCACAGACAGTACCCTGCCAATGTAGGCCCTCAATGTGGACAGCAGAGATGATCTCCC

73▶ 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 E G

1801 CAGTCTTGGTCTGATGGCCGCCGACATGGTGTCTGTCTCATAGAGCATGGTGTCTTCTCAGTGGCGACCTCCACAGCTCCAGATCCTGCTG

40▶ 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 Q Q

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**BbsI (1913)**  
**XmnI (1909)**  
**AseI (1975)**

1901 AGAGATGTTGAAGGTCTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATG

7▶ S I N F T K M

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**SacI (2032)**

2001 GCGTCTCCAGCTTATCTGACGGTTCATAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTG

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**SpeI (2130)**

2101 TTACGACATTTTGAAAAGTCCCGTTGATTTACTAGTCAAAAACAACTCCATTGACGTCAATGGGGTGGAGACTTGGAAATCCCCGTGAGTCAAACCGCT

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**SnaBI (2258)**

2201 ATCCACGCCCATTTGATGTACTGCCAAAACCGCATCATCATGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAAGTCCATAAGGTCAT

NdeI (2363)

2301 GTACTGGGCATAATGCCAGGCGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCAGTT  
2401 TACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCAATTATTGACGTCAATGGGCGGGGGTCGTTGG

PacI (2549)

PstI (2542)  
SdaI (2541)      BspLU11I (2559)

2501 GCGGTCAGCCAGGCGGGCCATTTACCGTAAAGTTATGTAACGCTGCAGGTTAATTAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAA  
2601 AAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTAT  
2701 AAAGATACCAGGCGTTTCCCCCTGGAAGCTCCCTCGTGCCTCCTCTGTTCCGACCCTGCCGTTACC GGATACCTGTCCGCCTTCTCCCTTCGGGAAG

ApaLI (2873)

2801 CGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTGTTGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTTCAGCCCGAC  
2901 CGCTGCGCCTTATCCGGTAACTATCGTCTTGAAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGCA  
3001 GGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTAC  
3101 CTTGGAAGAAAGATTGGTAGCTCTTGATCCGGCAAACAAACACCGCTGGTAGCGGTGGTTTTTTTTTTGTTTGCAAGCAGCAGATTACGCGCAGAAAAAAA

PacI (3289)   SwaI (3298)

3201 GGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACAT

EagI (3309)  
NotI (3308)

3301 TTAATCAGCGGCCGAATAAAATATCTTTATTTTCATTACATCTGTGTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAACAAA  
3401 ACGAAACAAAACAACTAGCAAAATAGGCTGTCCCGAGTCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA