



**PvuI (7)**  
**SgfI (6)**
**EcoNI (96)**

1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTCGGCAATTGAACGGGTGCCTA  
 101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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**HindIII (245)**
**Bsu36I (291)**

**Psp1406I (203)**
**PvuII (239)**
**EcoNI (287)**

201 GTGAACGTTCTTTTTTCGCAACGGGTTTGGCCGACAGTGAAGCTTCGAGGGGCTCGCATCTCTCTTACCGCGCCCGCCCTACCTGAGGCC  
 301 GCCATCCACGCGGTTGAGTGCAGTCTGCCGCTCCCGCCTGTGGTGCCTCCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

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**NgoMIV (441)**  
**NaeI (441)**

401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGTCTTTGTTTCGTTT

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**KasI (535)**
**AgeI (552)**
**BspHI (560)**

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCGCTA CCTGAGATCACCGGTCATCATGACAGATGACAAAGATGTGCTTCGAGATGTGTGGTT  
1▶ M T D D K D V L R D V W F

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**EcoRI (605)**

601 TGGACGAATTCACACTTGTTCACGCTATATCAGGATGAGATAACTGAAAGGGAAGCAGAACCATACTATTTGCTTTTCCAAGAGTAAGTTATTTGACG  
 13▶ G R I P T C F T L Y Q D E I T E R E A E P Y Y L L L P R V S Y L T

**BbsI (748)**
**BstXI (787)**

701 TTGGTAAGTACAAAGTGAAGCACTTTGCAAGGTTATGAGACAAGAAGCACTTAGTGAGATATGGTTTGAATATGAAGGCACACCCTGAAATGGC  
 47▶ L V T D K V K K H F Q K V M R Q E D I S E I W F E Y E G T P L K W  
 801 ATTATCCAATTTGGTTTGTATTTGATCTTCTTGCATCAAGTTGAGCTCTTCTTGAACATCACAGTACATTTAAGAGTTTTCCAGAAAAAGACCTTCT  
 80▶ H Y P I G L L F D L L A S S S A L P W N I T V H F K S F P E K D L L  
 901 GCACTGTCATCTAAGGATGCAATTGAAGCTCATTATGTCATGATGAAAGAAGCTGATGCTTTAAAAATAAAAGTCAAGTAATCAATGAAATGCAG  
 113▶ H C P S K D A I E A H F M S C M K E A D A L K H K S Q V I N E M Q  
 1001 AAAAAAGATCACAAGCAACTCTGGATGGGATTGCAAAAATGACAGATTGACCCAGTTTTGGGCCATCAATCGGAACTCATGGAATATCCTGCAGAAGAAA  
 147▶ K K D H K Q L W M G L Q N D R F D Q F W A I N R K L M E Y P A E E  
 1101 ATGGATTCGTTATATCCCTTTAGAATATATCAGACAACGACTGAAAGACCTTTTCATTGAGAGCTGTTTCGTCTGTGGCTGCAGATGGACAGTTGCA  
 180▶ N G F R Y I P F R I Y Q T T T E R P F I Q K L F R P V A A D G Q L H

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**BglII (1209)**

1201 CACACTAGGATCTCCTCAAAGAGTTTGTCTTCTGCTATTGATCCTGAAGATGGGGAAAAAAGAATCAAGTGTGATTGATGGAATGAGCCAATG  
 213▶ T L G D L L K E V C P S A I D P E D G E K K N Q V M I H G I E P M  
 1301 TTGGAAACACCTCTGCAGTGGCTTAGTGAACATCTGAGCTACCCGGATAATTTCTTCATATTAGTATCATCCCACAGCAACAGATTGAAGGATCAACT  
 247▶ L E T P L Q W L S E H L S Y P D N F L H I S I I P Q P T D •

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**MscI (1422)**  
**NheI (1416)**

1401 ATTTGCCTGAACAGAAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGT

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**HpaI (1554)**

1501 GAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAAGTTAAACAACAACAAATTGCATTATTTTATGTTTCAGGTTTCAGGGGG

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**EcoRI (1650)**

1601 AGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCATAATACAGCATAGCAAACTTTAACCTCCAATCAAGCCTCT  
 1701 ACTTGAATCCTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTGCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTTA

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**SspI (1889)**

1801 AGATATAGTGTATTTTCCAAGTTTGAAGTACTCTTCAATTTCTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTATGAAAAATATTCAGAA

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**Swal (1903)**
**EcoO109I (1964)**

1901 ATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGA  
 2001 CTTAGGGAACAAAGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAGGGGATGAGTTCCCTCAATGG  
1-1-1 • N R T Y K L P I L E E I T

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**SacI (2164)**
**BstXI (2193)**

2101 TGGTTTTGACCAGCTTGCCATTCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGTGTGAGCTCTCTGCACATGCCACAGGGGCTGACCACCCT  
 127▶ 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 C P S V R  
 2201 GATGGATCTGTCCACCTCATCAGAGTAGGGGTGCTGACAGCCAAAGTGTCAAAGTCTCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCT  
 94▶ 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 G I A I A

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**StuI (2328)**

2301 TCAGCACAGACAGTGACCCTGCAATGTAGGCCCAATGTGGACAGCAGAGATGATCTCCCGAGTCTTGGTCTGATGGCCGCCCCGACATGGTGTCTGT  
 60▶ 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 G V H H K N

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**BspHI (2478)**
**BbsI (2474)**
**XmnI (2470)**

2401 TGTCTCATAGAGCATGGTGTCTCTCAGTGGCGACCTCCACCAGTCCAGATCCTGCTGAGAGATGTTGAAGTCTTCATGATGGCCCTCCTATAGTG  
 27▶ 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

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**AseI (2536)**
**SacI (2593)**

2501 AGTCGATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCACTAAACGAGCTC

2600 TGCTTATATAGACCTCCACCGTACACGCCTACGCCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTC **SpeI (2691)**

2699 AAAACAAACTCCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCAT

2799 CATGGTAATAGCGATGACTAATACGTAGATGACTGCCAAGTAGGAAAGTCCCATAAGGTCATGACTGGCATAATGCCAGGCGGGCCATTTACCGTCA **SnaBI (2819)**

2899 TTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGATGACTGCCAAGTGGGAGTTTACCGTAAATACTCCACCCATTGACGTCAATGAAAG **NdeI (2924)**

2999 TCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGGGGGGTCGTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAGTTATGT

3099 AACGCCTGCAGGTTAA TTAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCG **SdaI (3102)****PaeI (3110)** **BspLU11I (3120)**

3197 CCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCCTGGAAGCTCCCTC

3297 GTGCGCTCCTCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCCTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCTCACGCTGTAGGTATC

3397 TCAGTTCGGTGTAGGTCGTTGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTCCAGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTC **ApaLI (3434)**

3497 CAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGG

3597 TGGCCTAACTACGGCTACACTAGAAGAAGCAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCA

3697 AACAAACCACCGCTGGTAGCGGTGGTTTTTTTTTTTGGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGG

3797 GTCTGACGCTCAGTGAACGAAACTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCGCAATAAATATCTTTATTT **EagI (3870)**  
**PaeI (3850)** **Swal (3859)** **NotI (3869)**

3896 TCATTACATCTGTGTGTTGGTTTTTTTGTGTAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCC

3996 CCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA