



**PvuI (7)** **SgfI (6)** **MfeI (82)**  
1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA  
101 GAGAAAGTGGCGCGGGGTAAACTGGAAAGTGTGCTGTACTGGCTCCGCCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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**HindIII (245)** **PvuII (239)**  
201 **Psp1406I (203)** GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTCACGCGCCGCCCTACCTGAGGCC  
301 GCCATCCACGCCGGTTGAGTCGCGTTCTGCCGCTCCCGCTGTGGTGCCTCCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

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**NgoMIV (441)**  
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCTGCTTGTCAACTCTACGCTTTTGTTCGTTT

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**BstEII (555)** **AgeI (552)** **NcoI (560)**  
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTACCATGGCCTCAACCACCAGCACCAAGAAGATGATGGAGGA  
601 AGCCACCTGCTCCATCTGCTGAGCCTGATGACGAACCCAGTAAGCATCAACTGTGGACACAGCTACTGCCACTTGTGTATAACAGACTTCTTTAAAAAC  
13▶ A T C S I C L S L M T N P V S I N C G H S Y C H L C I T D F F K N  
17▶ M A S T T S T K K M M E E

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**NdeI (760)** **PvuII (787)**  
701 CCAAGCCAAAAGCAACTGAGGCAGGAGACATTCTGCTGTCCCACTGTGGGCTCCATTTTCATATGGATAGCCTCCGACCCAAACAAGCAGCTGGGAAGCC  
47▶ P S Q K Q L R Q E T F C C P Q C R A P F H M D S L R P N K Q L G S  
801 TCATTGAAGCCCTCAAAGAGACGGATCAAGAAATGTATGTGAGGAACACGGAGAGCAGTTCCACCTGTTCTGCGAAGACGAGGGGACGCTCATCTGCTG  
80▶ L I E A L K E T D Q E M S C E E H G E Q F H L F C E D E G Q L I C W

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**BsrBI (907)**  
901 GCGCTGTGAGCGGGCACCACAGCACAAAGGGCACACCACAGCTCTTGTGAAGACGTATGCCAGGGCTACAAGGAAAAGCTCCAGAAAAGCTGTGACAAAA  
113▶ R C E R A P Q H K G H T T A L V E D V C Q G Y K E K L Q K A V T K  
1001 CTGAAGCAACTGAAGACAGATGTACGGAGCAGAAGCTGTCCACAGCAATCGAATAACTAAATGGAAAGAGAAGGTACAGATTACAGACAAAAAATCC  
147▶ L K Q L E D R C T E Q K L S T A M R I T K W K E K V Q I Q R Q K I  
1101 GGTCTGACTTTAAGAATCTCCAGTGTTCCTACATGAGGAAGAGAAGTCTTATCTCTGGAGGCTGGAGAAAAGAACAACAGACTCTGAGTAGACTGAG  
180▶ R S D F K N L Q C F L H E E E K S Y L W R L E K E E Q Q T L S R L R

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**SapI (1224)** **PstI (1294)**  
1201 GGAATGATGAGGCTGGTCTGGGGCTGAAGAGCAATGAATCAAGAGCCACATCCTGAACTGGAGGAAAAATGTGAGGGCTCAGCCAGAAAATGCTGCAG  
213▶ D Y E A G L G L K S N E L K S H I L E L E E K C Q G S A Q K L L Q

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**HindIII (1393)**  
1301 AATGTGAATGACACTTTGAGCAGGAGTTGGGCTGTGAAGCTGGAAACATCAGAGGCTGTCTCCTTGGAACTTCATACTATGTGCAATGTTTCCAAGCTTT  
247▶ N V N D T L S R S W A V K L E T S E A V S L E L H T M C N V S K L

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**BamHI (1449)** **XmnI (1471)**  
1401 ACTTCGATGTGAAGAAAATGTTAAGGAGTCATCAAGTTAGTGTGACTCTGGATCCAGATACAGCTCATCACGAACTAATTCTCTCTGAGGATCGGAGACA  
280▶ Y F D V K K M L R S H Q V S V T L D P D T A H H E L I L S E D R R Q  
1501 AGTGACTCGTGGATACCCAGGAGAATCAGGACACATCTCCAGGAGATTTACTGCCTTCCCCTGTGTCTTGGTGTGAAAGCTTACCTCAGGAAGA  
313▶ V T R G Y T Q E N Q D T S S R R F T A F P C V L G C E G F T S G R  
1601 CGTTACTTTGAAGTGGATGTTGGCGAAGGAACCGGATGGGATTTAGGAGTTTGTATGGAAAATGTGCAGAGGGGCACTGGCATGAAGCAAGAGCCTCAGT  
347▶ R Y F E V D V G E G T G W D L G V C M E N V Q R G T G M K Q E P Q

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**BstAPI (1782)**  
1701 CTGGATTCTGGACCCTCAGGCTGTGCAAAAAGAAAGGCTATGTAGCACTTACTTCTCCCCAATTCCCTTCTGATGAGCAGCCCTGCTTGTGGG  
380▶ S G F W T L R L C K K K G Y V A L T S P P T S L H L H E Q P L L V G  
1801 AATTTTCTGACTATGAGGCIGGAGTTGTATCCTTTTATAACGGGAATACTGGCTGCCACATCTTACTTTCCCGAAGGCTTCTTCTGATACTCTC  
413▶ I F L D Y E A G V V S F Y N G N T G C H I F T F P K A S F S D T L

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**MscI (1992)** **NheI (1986)**  
1901 CGGCCCTATTTCCAGGTTTATCAATATTCTCCTTTGTTTCTGCCTCCCCAGGTGACTAAGGAAAAGAGCAGAAGCTCCTTGGTTTGTAGCTGGCCAGA  
447▶ R P Y F Q V Y Q Y S P L F L P P P G D •  
2001 CATGATAAGATACATTGATGAGTTGGACAAACCACAACACTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTA

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**HpaI (2124)** **MfeI (2135)**  
2101 ACCATTATAAGCTGCAATAAACAAAGTTAAACAACAACAAATTGCATTCTTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAA

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**EcoRI (2220)**  
2201 ACCTCTACAAATGTGGTATGGAATTCTAAAATACAGCATAGCAAACTTTAACCTCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAG  
2301 GCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGTATTTTCCAAGTTTGAAC

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**SapI (2402)** **SspI (2459)** **SwaI (2473)**  
2401 TAGCTCTTCATTTCTTTATGTTTAAATGCACTGACCTCCACATTCCTTTTTAGTAAAATATTGAGAAATAATTTAAATACATCATTGCAATGAAAAT

2501 **EcoO109I (2534)**  
AAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGAACCTTTAATAGAAA

2601 TTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCATCTCAA  
141 ◀ • N R T Y K L P I L E E I T T K V L K G N M E I

2701 **SacI (2734)** **BstXI (2763)**  
TGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGG  
117 ◀ 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 D V E D S Y P

2801 **StuI (2898)**  
GTGCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTGACCTGCCAATGTAG  
84 ◀ 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 V T V R G I Y

2901 GCCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGTCTTGTCTCATAGAGCATGGTGATCTTCTCAG  
50 ◀ 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 Y L M T I K E T

3001 **XmnI (3040)**  
TGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATG  
17 ◀ A V E V L E L D Q Q S I N F T K M

3101 **AseI (3106)** **SacI (3163)**  
CCGATGATTAATTGTCAAACACAGCGTGATGGCGTCTCCAGCTTATCTGACGGTTCATAAACGAGCTCTGCTTATATAGACCTCCCACCGTACACGCCT

3201 **SpeI (3261)**  
ACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAACAAACTCCCATTGACGTCAATGGGGTGG

3301 **SnaBI (3389)**  
AGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGT

3401 **NdeI (3494)**  
ACTGCCAAGTAGGAAAGTCCCATAAGGTGATGACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATAG

3501 ATACACTTGATGTACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGAAAGTCCCTATTGGCGTACTATGGGAACATACGTC

3601 **PacI (3680)** **PstI (3673)** **SdaI (3672)** **BspLU11I (3690)**  
ATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTACGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCTGCAGGTTAATTAAGAACATGTGAGC

3701 AAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCA

3801 AGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCTGGAAGCTCCCTCGTGCGCTCTCTGTTCCGACCCTGCCGTTACCG

3901 GATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGAGGTATCTCAGTTCGGTGTAGGTCTGTTCCGCTCCAAGCTGGG

4001 **ApaLI (4004)**  
CTGTGTGCACGAACCCCCGTTAGCCCGACCGCTGCGCTTATCCGGTAACTATCGTCTTGAAGTGGTGCCTAACTACGGCTACACTAGAAGAACAGTAT

4101 GCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGCCTAACTACGGCTACACTAGAAGAACAGTAT

4201 TTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAACCACCGCTGGTAGCGGTGTTTTTTTGT

4301 TTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTCTACGGGTCTGACGCTCAGTGGAAACGAAAACTCACGTTAA

4401 **EagI (4440)** **PacI (4420)** **SwaI (4429)** **NotI (4439)**  
GGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGCAATAAAATATCTTTATTTTCATTACATCTGTGTGTTGTTTTTTGTGTAATC

4501 GTAAC TAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCCAGTGAAGTGCAGGTGCCAGAACATTTCTCTAT

4601 CGAA