



**PvuI (7)**  
**SgfI (6)**  
1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGAGAAGTTGGGGGAGGGGTCGGCAATTGAACGGGTGCCTA  
101 GAGAAGGTGGCGCGGGTAAACTGGAAAAGTATGTCGTGTACTGGCTCCGCCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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**Psp1406I (203)** **PvuII (239)** **Bsu36I (291)**  
201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCCTTCACGCGCCGCCCTACCTGAGGCC  
301 GCCATCCACGCCGGTTGAGTCGCGTTCTGCCGCTCCCGCTGTGGTGCTCCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

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**NgoMIV (441)**  
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

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**AgeI (552)** **BspHI (568)**  
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTAGGAGGGCCATCATGATGCCTCCCTGGCTCCTGGCTAGGACT  
1 M M P P W L L A R T  
**SspI (669)** **NsiI (683)**  
601 CTGATCATGGCACTGTTCTTCTCCTGCCTGACACCAGGAAGCTTGAATCCCTGCATAGAGGTAGTTCCTAATATTACCTACCAATGCATGGATCAGAAAC  
11 L I M A L F F S C L T P G S L N P C I E V V P N I T Y Q C M D Q K  
701 TCAGCAAAGTCCCTGATGACATTCCTTCTCAACCAAGAACATAGATCTGAGCTTCAACCCCTTGAAGATCTTAAAAAGCTATAGCTTCTCCAATTTTTTC  
44 L S K V P D D I P S S T K N I D L S F N P L K I L K S Y S F S N F S

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**BbsI (846)**  
801 AGAACTTCAGTGGCTGGATTATCCAGGTGTGAAATTGAAACAATTGAAGACAAGGCATGGCATGGCTTACACCACCTCTCAAACCTGATACTGACAGGA  
77 E L Q W L D L S R C E I E T I E D K A W H G L H H L S N L I L T G  
901 AACCTATCCAGAGTTTTTCCCGAGGAAGTTTCTGGACTAAACAAGTTTAGAGAATCTGGTGGCTGTGGAGACAAAATTGGCCTCTCTAGAAAGCTTCC  
111 N P I Q S F S P G S F S G L T S L E N L V A V E T K L A S L E S F  
1001 CTATTGGACAGCTTATAACCTTAAAGAACTCAATGTGGCTCACAAATTTTATACATTCCTGTAAGTTACCTGCATATTTTTCCAATCTGACGACCTAGT  
144 P I G Q L I T L K K L N V A H N F I H S C K L P A Y F S N L T N L V  
1101 ACATGTGGATCTTTTATAACTATATTCAAACCTACTGTCAACGACTTACAGTTTCTACGTGAAAATCCACAAGTCAATCTCTTTAGACATATCT  
177 H V D L S Y N Y I Q T I T V N D L Q F L R E N P Q V N L S L D I S  
1201 TTGAACCAATTGACTTCATTCAAGACCAAGCCTTTGAGGAATTAAGCTCCATGAACTGACTGAACTGAAAGGTAATTTAATAGCTCAAATAATGAAAA  
211 L N P I D F I Q D Q A F Q G I K L H E L T L R G N F N S S N I M K  
1301 CTTGCCTTCAAACCTGGCTGGTTTACACATCCATCGGTTGATCTTGGGAGAAATTTAAAGTAAAGGAACTGGAATTTTTGAACCTCTATCATGGA  
244 T C L Q N L A G L H I H R L I L G E F K D E R N L E I F E P S I M E

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**HpaI (1433)**  
1401 AGGACTATGTGATGTGACCATTGATGAGTTCAGGTTAACAATATACAAATGATTTTTCAGATGATATTGTTAAGTTCATTGCTTGGCGAATGTTTCTGCA  
277 G L C D V T I D E F R L T V T N D F S D D I V K F H C L A N V S A  
1501 ATGTCTCTGGCAGGTGTATCTATAAAATCTAGAAGATGTTCTAAACATTTCAAATGGCAATCCTTATCAATCATTAGATGTCAACTAAGCAGTTTC  
311 M S L A G V S I K Y L E D V P K H F K W Q S L S I I R C Q L K Q F  
1601 CAACTCTGGATCTACCCTTTCTAAAAGTTTGACTTTAACTATGAACAAAGGGTCTATCAGTTTTAAAAAGTGGCCCTACCAAGTCTCAGCTATCTAGA  
344 P T L D L P F L K S L T L T M N K G S I S F K K V A L P S L S Y L D  
1701 TCTTAGTAGAAAATGCACTGAGCTTTAGTGGTTGCTGTTCTTATTCTGATTTGGGAACAACAGCCTGAGACACTTAGACCTCAGCTTCAATGGTGCCATC  
377 L S R N A L S F S G C C S Y S D L G T N S L R H L D L S F N G A I

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**BstXI (1810)** **SapI (1827)** **EcoRI (1878)**  
1801 ATTATGAGTGCCAAATTTCAAGGCTAGAAAGCTGACAGCACCTGGATTTTTCAGCACTCTACTTTAAAAAGGTCACAGAATTCCTCAGCGTTCCTATCCC  
411 I M S A N F M G L E E L Q H L D F Q H S T L K R V T E F S A F L S  
1901 TTGAAAAGCTACTTTACCTTGACATCTTATACTAACACCAAAATGACTTCGATGGTATATTTCTGGCTTGACCAGTCTCAACACATTAATAATGGC  
444 L E K L L Y L D I S Y T N T K I D F D G I F L G L T S L N T L K M A  
2001 TGGCAATCTTTCAAAGACAACACCCTTTCAAATGTCTTTGCAAAACAACAACTTACATTCCTGGATCTTTCAAATGTCAATTTGGAACAATAATCT  
477 G N S F K D N T L S N V F A N T T N L T F L D L S K C Q L E Q I S

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**PvuII (2187)**  
2101 TGGGGGTATTTGACACCCTCCATAGACTTCAATTATTAATATGAGTCAACAATCTATTGTTTTGGATTATCCATTATAACACAGCTGATTCCC  
511 W G V F D T L H R L Q L L N M S H N N L L F L D S S H Y N Q L Y S  
2201 TCAGCACTCTTGATTGCAGTTTCAATCGCATAGAGACATCTAAAGGAATACTGCAACATTTTCAAAGAGTCTAGCCTTCTTCAATCTTACTAATAATTC  
544 L S T L D C S F N R I E T S K G I L Q H F P K S L A F F N L T N N S  
2301 TGTGCTTGATATGTGAACATCAGAAATTCCTGCACTGGGTCAAGGACCAGAAGCAGTTCTTGGTGAATGTTGAACAAATGACATGTGCAACACCTGTA  
577 V A C I C E H Q K F L Q W V K D Q K Q F L V N V E Q M T C A T P V

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**BsrGI (2449)**  
2401 GAGATGAATACCTCCTTAGTGTGGATTTAATAATTCTACCTGTTATATGTAACAAGACAATCATCAGTGTGTGAGTGGTGTGATTGTGGTATCCA  
611 E M N T S L V L D F N N S T C Y M Y K T I I S V S V V S V I V V S

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**MscI (2589)** **NheI (2583)**  
2501 CTGTAGCATTTCTGATATACCACTTCTATTTTACCTGATACTTATTGCTGGCTGAAAAAGTACAGCAGAGGAGAAAAGCTGAGCTAGCTGGCCAGACAT  
644 T V A F L I Y H F Y F H L I L I A G C K K Y S R G E S •  
2601 GATAAGATACATTGATGAGTTTGACAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTGTGAAATTTGTGATGCTATTGCTTTATTGTAAAC

2701 **HpaI (2721)**  
ATTATAAGCTGCAATAAAACAAGTTAAACAACAACAATTGCATTCATTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGTTTTTTAAAGCAAGTAAAACC

2801 **EcoRI (2817)**  
TCTACAAATGTGGTATGGAATTCTAAAATACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCA

2901 **SapI (2999)**  
TAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGACGCTCACCTTCTTTTCATGGAGTTAAGATATAGTGTATTTTCCCAAGGTTTGAAGTAC

3001 **SspI (3056)** **SwaI (3070)**  
CTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTTAGTAAAAATTCAGAAAAATTTAAATACATCATTGCAATGAAAATAAA

3101 **EcoO109I (3131)**  
TGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATTG

3201 **StuI (3495)**  
GACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCATCTCAATGA  
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

3301 **SacI (3331)** **BstXI (3360)**  
GCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGTCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTG  
116 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 H

3401 **StuI (3495)**  
CCTGACAGCCACAATGGTGTCAAAGTCCTTCTGCCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCC  
83 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 A

3501 **StuI (3495)**  
TCAATGTGGACAGCAGAGATGATCTCCCGAGTCTGGTCTGATGGCCGCCGACATGGTGTCTGTCTCATAGAGCATGGTGTCTTCTCAGTGG  
49 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 A

3601 **BbsI (3641)**  
CGACTCCACCAGCTCCAGATCTGCTGAGAGATGTTGAAGTCTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCG  
16 V E V L E L D Q Q S I N F T K M

3701 **AseI (3703)** **SacI (3760)**  
ATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTCACTAAACGAGCTCTGCTTATATAGACCTCCACCCTACACGCCTACC

3801 **SpeI (3858)**  
GCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAAACAACTCCATTGACGTCAATGGGGTGGAGA

3901 **SnaBI (3986)**  
CTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTAAGTCCGAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACT

4001 **NdeI (4091)**  
GCCAAGTAGGAAAGTCCATAAGGTCATGTAAGTGGGCATAATGCCAGGCGGGCCATTACCGTCAATTGACGTCAATAGGGGGCTACTTGGCATATGATA

4101 **NdeI (4091)**  
CACTTGATGTAAGTCCCAAGTGGGCGAGTTTACCGTAAATACTCCACCCATTGACGTCAATGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCAAT

4201 **PacI (4277)** **SdaI (4269)**  
ATTGACGTCAATGGGCGGGGCTGTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCTGCAGGTTAATTAAGAACATGTGAGCAAA  
CCTGCAGGTTAATTAAGAACATGTGAGCAAA

4301 **SdaI (4269)**  
AGGCCAGCAAAAGGCCAGGAACCGTAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCTGACGAGCATCACAAAAATCGACGCTCAAGT

4401 **SdaI (4269)**  
CAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCTGGAAGCTCCCTCGTGGCTCTCCTGTTCCGACCCTGCCGCTTACCGGAT

4501 **SdaI (4269)**  
ACCTGTCCGCTTTCTCCCTTCGGAAGCGTGGCGTTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTGTTCCGCTCAAGCTGGGCTG

4601 **ApaLI (4601)**  
TGTGCACGAACCCCGTTCAGCCGACCGCTGCGCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCA

4701 **ApaLI (4601)**  
GCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTG

4801 **ApaLI (4601)**  
GTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTGTGTTG

4901 **ApaLI (4601)**  
CAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACTCACGTTAAGGG

5001 **EagI (5037)** **PacI (5017)** **SwaI (5026)** **NotI (5036)**  
ATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGCAATAAAAATATCTTATTTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTA

5101 **EagI (5037)**  
ACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGA

5201 A