



**PvuI (7)**  
**SgfI (6)**  
1 GGATCTGCGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA **EcoNI (96)**  
101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGCTGTACTGGCTCCGCCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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**HindIII (245)**  
**Psp1406I (203)** **PvuII (239)** **Bsu36I (291)**  
201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCAGAGGGCTCGCATCTCTCTTACAGCGCCGCCCGCCCTACCTGAGGCC  
301 GCCATCCACGCGGTTGAGTGCAGTTCTGCCGCCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

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**NgoMIV (441)**  
**NaeI (441)**  
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGTCTTTGTTTCGTTT

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**NcoI (560)**  
**BstEII (555)**  
**KasI (535)** **AgeI (552)**  
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCGCTACCTGAGATCACCGGTACCATGGCGAGCCGAAGGGCCCGCAGCGCCTCAAGGGTGG  
1 M A S R R A R Q R L K G G

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**SacII (688)**  
601 CGGCGCGCGCGGTGGCGGCGCGGTGGGATGCGGGCCCGCGCGGAGAGAAGCTGGAACAGCTCGGCAGCCGGGAGGCGAGCGCAGGCCGCGCCAGAG  
13 G G G G G G G G D A G P A A E K L E Q L G S R E A G A E P R P E

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**BamHI (736)** **FspI (775)**  
701 TCTGAAATAAAGCAGGGCAAGTCTGGGCCCTGAAGGATCCACTGCTTTCAAGTGTCTGCTCTCAGCGAGGTTGTGCGCAGCCCTTCTGAGCAACATCT  
47 S G N K A G Q V W A P E G S T A F K C L L S A R L C A A L L S N I

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**Spl (875)**  
801 CGGACTGTGATGAAACATCAACTACTGGGAACCAACACTACTCCTCATCTACGGGAAGGGATTCCAGACATGGGAATATCCCCCGTGTATGCCATCCG  
80 S D C D E T F N Y W E P T H Y L I Y G K G F Q T W E Y S P V Y A I R

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**PvuII (932)**  
901 CTCATATGCTTACCTGCTGCTGCACGCCGCTGGCCAGCTGCATTTTCATGCACGGATTCTGCAGACTAACAAGATTCTGTATTCTACTTTTTGAGATGTCTC  
113 S Y A Y L L L H A W P A A F H A R I L Q T N K I L V F Y F L R C L  
1001 CTGGCTTTGTGAGCTGTGTTTGTGAACCTTACTTTTATAAGGCTGTGTGCAAGAAKTTGGGCTGCATGTGAGTCAATGATGCTGGCCTTCTGGTGC  
147 L A F V S C V C E L Y F Y K A V C K F G L H V S R M M L A F L V

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**BsrGI (1154)**  
1101 TCAGCACGGGCATGTTCTGCTCATCATCTGCATTCCCTCCCGCAGAGCTTCTGCATGTACACCACGCTGATCGCCATGACGGGATGGTATATGGACAAGAC  
180 L S T G M F C S S S A F L P S S F C M Y T T L I A M T G W Y M D K T

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**XcmI (1202)**  
1201 ACCATTGCTGTGCTGGGAGTAGCAGCCGGTGCCATCTTAGGGTGGCCGTTTAGTGCAGCTCTTGGTTTACCCATCGCCTTGCAGTTGCTGGCCAGGAAG  
213 P I A V L G V A A G A I L G W P F S A A L G L P I A F D L L A R K  
1301 CACAGGTGGAAGAGTTTCTGCTCTGGTCCCTGGTGGCCCTGGCTCTCTTCTGGTGCCTGTGGTGGTCATTGACAGCTACTATTACGGGAAGTTGGTGG  
247 H R W K S F L L W S L V A L A L F L V P V V V I D S Y Y Y G K L V

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**NcoI (1468)**  
1401 TTGCCCTCTCAACATTGTTTTGTATAACGCTTTACGCTCATGGACCTGATCTTTATGGTACAGAACCATGGTATTTCTATTTAATCAATGGATTCTC  
280 V A P L N I V L Y N V F T S H G P D L Y G T E P W Y F Y L I N G F L  
1501 GAACCTCAATGTTGCCTTTGGCTCTTCTGGTGGTGGCCACTGACTTTCTTATGGAGTACCTGCTGCAGAGGTTCCATGTTTCAAGATTTAGGACAC  
313 N F N V A F A L A L L V L P L T F L M E Y L L Q R F H V Q N L G H

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**XcmI (1621)** **Eco47III (1670)**  
**KasI (1617)** **AfeI (1670)**  
1601 CCGTATTGGCTGACCTTGGCGCCAAATGTATATTTGGTTTATAATTTCTTCCATCCAGCCTCAAAAGAAGAGCGCTTCTCTTCCAGTCTATCCGCTCA  
347 P Y W L T L A P M Y I W F I I F F I Q P H K E E R F L F P V Y P L

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**BstXI (1793)**  
1701 TATGCCTCTGTGGTGTGTTGCTCTTTCTGCACCTCAGAAATGTACCACTTTGTGTTTCAACGATACCGCCTGGAGCATTACACGGTGACCTCCAACCTG  
380 I C L C G A V A L S A L Q K C Y H F V F Q R Y R L E H Y T V T S N W

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**BsaBI (1885)**  
1801 GCTGGCGTGGGCACAGTTTTCTGTTTGGGCTCTGTGTTCTCCGCTCTGTGGCTGTTTCCAGAGGATACCAGGGCCCTTGATTTATATCCAGAA  
413 L A L G T V F L F G L L S F S R S V A L F R G Y H G P L D L Y P E

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**ClaI (1982)**  
1901 TTTTACAGAATTGCCACAGACCCAAACCATCCACTGTCCAGAAGGCAGGCCGTGAACGCTGTGTGGGAAAAGAGTGGTATCCAGTTCCAGTAGCT  
447 F Y R I A T D P T I H T V P E G R P V N V C V G K E W Y R F P S S  
2001 TCCTTCTGCCTGACAATTGGCAGCTTCAAGTTCATTCCATCAGAGTTCAGAGGTCAGCTACCAAAGCCTTTCGAGAGGGACCACTGGCCACCAGGACTGT  
480 F L L P D N W Q L Q F I P S E F R G Q L P K P F A E G P L A T R T V  
2101 TCCCACTCACATGAACGACCGAGAACCAGAGGAGCCTTCCAGATACATTGACATCAGCAAATGCCATTACTTAGTGGATTGGATACCATGAGAGAAACA  
513 P T H M N D Q N R E E P S R Y I D I S K C H Y L V D L D T M R E T

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**BbsI (2277)**  
2201 CCTCGGGAGCCAACTACTCATCCACAGAGAAGAGTGGGTCAGCCTGGCTCACAGACCACTTCCCTGGATCGCTAGGCTTCCAAGTTGCTTCGGGCAT  
547 P R E P N Y S S H R E E W V S L A H R P F L D A S R S S K L L R A  
2301 TCTATGTTCCCTTCTGTGATGATGTGAAGTACACCATCCTGAAGCCTCGGAAAGCAAAGCCGAGCAGGAAGAAAAGTGGAGGTTA  
580 F Y V P F L S D Q Y T V Y V N Y T I L K P R K A K P S R K K S G G •

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**NheI (2430)**  
2401 GCACCCCGGTGACTCCAGAGGACAGCCTGTGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGA  
613

2501 **HpaI (2568)**  
 ATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAACAATTGCATTCATTTTATGTT

2601 **EcoRI (2664)**  
 TCAGGTTTCAGGGGGAGGTGTGGGAGTTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCTAAAATACAGCATAGCAAACTTTAACCTC

2701 CAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTC

2801 TTTTCATGGAGTTTAAAGATATAGTGATTTTTCCCAAGGTTTGAAGTACTGCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTAG

2901 **SspI (2903)** **SwaI (2917)**  
 TAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCCA

3001 GTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTAAATAGAAAATGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAGGGGGAT  
 141 • N R T Y K L P I

3101 **SacI (3178)**  
 GAGTTCCTCAATGGTGGTTTTGACCAGCTTGCATTCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAG  
 132 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 I L E R C M G C

3201 **BstXI (3207)**  
 GGGCTGACCACCTTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACC  
 98 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 K Q G N S V A S G

3301 **StuI (3342)**  
 CAATGGCAATGGCTTACGACAGACAGTACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCACAGTCTTGGTCTGATGGCCGCC  
 65 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 T K T R I A A G

3401 **BspHI (3492)** **BbsI (3488)**  
 GACATGGTCTTGTGTCTCATAGAGCATGGTATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGATG  
 32 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 S I N F T K M

3501 **AseI (3550)**  
 GCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTATCTGACGGTTC

3601 **SacI (3607)**  
 ACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAAGTCCCGTT

3701 **SpeI (3705)**  
 GATTTACTAGTCAAAAACAACTCCATTGACGTCAATGGGGTGGAGACTTGGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCC

3800 **SnaBI (3833)**  
 AAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTGATGTACTGGGCATAATGCCAGGGGG

3900 CCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGTACTGCTCAAGTGGGCAGTTTACCCTAAATACTCCACCCATTGA

4000 CGTCAATGGAAAGTCCCTATTGGCGTACTATGGGAACATACGTCAATTATTGACGTCAATGGGGGGGTCGTTGGGGGTCAGCCAGGGCCATTTA

4100 **SdaI (4116)** **PacI (4124)** **BspLU11I (4134)**  
 CCGTAAGTTATGTAACGCCCTGCAGGTTAA TTAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGGCCGCTTCTGCGGTTTT

4198 TCCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCC

4298 TGGAAGCTCCCTCGTGCGCTCTCTGTCCGACCTGCCGCTTACCGGATACCTGTCGCTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCTCA

4398 **ApaLI (4448)**  
 CGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTACGCCGACCGCTGCGCCTTATCCGGTAACT

4498 ATCGTCTTGAGTCCAACCCGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGCGGTGTACAGA

4598 GTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGC

4698 TCTTGATCCGGCAAACAACACCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGA

4798 **EagI (4884)** **PacI (4864)** **SwaI (4873)** **NotI (4883)**  
 TCTTTTCTACGGGCTGACGCTCAGTGGAAACGAAAACCTACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCAATAAA

4898 ATATCTTTATTTTATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAA

4998 AATAGGCTGTCCCAGTGAAGTGCAAGTGCCAGGTGCCAGAACATTTCTCTATCGAA