



**PvuI (7)**  
**SgfI (6)** **MfeI (82)**  
1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTCCGCAATTGAACGGGTGCCTA  
101 GAGAAAGTGGCGCGGGTAAACTGGAAAAGTGTCTGTACTGGCTCCGCCTTTTTCCCGAGGTTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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**Psp1406I (203)**
**HindIII (245)**  
**Bsu36I (291)**  
201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTCACGCGCCGCCCTACCTGAGGCC  
301 GCCATCCACGCCGTTGAGTCGCGTTCTGCCGCTCCCGCTGTGGTGCCTCCTGAATGCGTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

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**NgoMIV (441)**  
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCTGCTTGTCTCAACTCTACGCTTTGTTTCGTTT

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**MscI (563)**  
**BstEII (555)**  
**AgeI (552) NcoI (560)**  
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTACCATTGCCAGTGATACCCAGGTTTCTACATGGACAACT  
1 ▶ M A S D T P G F Y M D K L

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**SnaBI (633)**
**ScaI (649)**  
601 TAATAAATACCGCCAGATGCACGGAGTAGCATTACGTATAAAGAACCTTAGTACTCGGGACCTCCACATGACAGAAGGTTTACATTTCAAGTTTTAATA  
13▶ N K Y R Q M H G V A I T Y K E L S T S G P P H D R R F T F Q V L I  
701 GATGAGAAGGAATTTCCAGAAGCAAAGGTAATCAAAGCAGGAGGCAAGAASCTGCGACGCAAATAGCTGTTGATATACTTGATAACGAAAACAAGG  
47▶ D E K E F P E A K G K S K Q E A R N A A A K L A V D I L D N E N K  
**BstAPI (825)**
**StuI (852)**  
801 TGGATTGTACACGAGTGCATCTGAGCAAGGCTTGCCCTATGGTAACTACATAGGCCCTTGTCATAGCTTTGCCAGAAGAAAAGCTGTCTGTAATTA  
80▶ V D C H T S A S E Q G L P Y G N Y I G L V N S F A Q K K K L S V N Y  
901 TGAACAGTGTGAGCCAACTCTGAGTTGCCTCAAAGATTTATTTGTAATGCAAAATGGGCAGACGATGTATGGTACTGGTTCAGGTGTACCAAACAG  
113▶ E Q C E P N S E L P Q R F I C K C K I G Q T M Y G T G S G V T K Q  
1001 GAGGCAAAGCAGTTGGCTGCGAAAAGCCTATCAGAAGCTGTTAAAGAGCCCGCCGAAAACGCGCGAATCCTCTAGCGTTGTCACTACATTCA  
147▶ E A K Q L A A K E A Y Q K L L K S P P K T A G T S S S V V T S T F

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**XcmI (1143)**  
1101 GTGGCTTTTCCAGCAGCTCGTCTATGACAAGTAATGGTGTTCCTCAGTCCAGTCCGGAAGTTTTCTCAGAGAACGTGTTTACGAACGGTCTCGGAGA  
180▶ S G F S S S S M T S N G V S Q S A P G S F S S E N V F T N G L G E  
1201 AAATAAAGGAAATCAGGAGTAAAAGTATCCCTGATGATGTGCAAGAAATAATATACCTTGACGCCAGGTTTAAACAGCGATTTGAAGCADIAGAA  
213▶ N K R K S G V K V S P D V Q R N K K I Y T L D A R F N L D A R F N D I E  
1301 GAAATTGCTTAGGTGGATTTGGTCAAGTTTTCAAAGCGAAAACAGAAATGATGAAAGAGATACGCTATTAAGCGCGTTAAATATAACACGGAGAAAGG  
247▶ E I G L G G F G Q V F K A K H R I D G K R Y A I K R V K Y N T E K

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**Eco47III (1416)**  
1401 CGGAGCACGAAGTACAAGCGCTGGCAGAACTCAATCACGTCAACATTGTCCAATACCATAGTTGTTGGGAGGGAGTTGACTATGATCCTGAGCACAGCAT  
280▶ A E H E V Q A L A E L N H V N I V Q Y H S C W E G V D Y D P E H S M

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**EcoRI (1546)**  
1501 GAGTGATACAAGTCGATACAAAACCGGTGCCTCTTTATTCAAATGGAATCTGTGATAAAGGAATTTGGAGCAATGGATGAGAAACAGAAATCAGAGT  
313▶ S D T S R Y K T R C L F I Q M E F C D K G T L E Q W M R N R N Q S

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**HindIII (1610)**
**BglII (1686)**  
1601 AAAGTGGACAAAGCTTTGATTTGGACTTATATGAACAAATCGTGACCGGAGTGGAGTATATACACTCGAAAGGGTTAATTCACAGAGATCTTAAGCCAG  
347▶ K V D K A L I L D L Y E Q I V T G V E Y I H S K G L I H R D L K P  
1701 GTAATATATTTTAGTAGATGAAAGACATTAAGATCGGAGACTTTGGCCTTGCAACAGCCCTGGAAAATGATGGAAAATCCCGAACAGGAGAACAGG  
380▶ G N I F L V D E R H I K I G D F G L A T A L E N D G K S R T R R T G

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**BbrPI (1899)**  
1801 AACTCTTCAATATATGAGTCCAGAACAGTTATTTTTAAAGCACTATGGAAAAGAGTGGACATCTTTGCTTTGGGCCCTTATTCTAGCTGAACCTCTTCCAC  
413▶ T L Q Y M S P E Q L F L K H Y G K E V D I F A L G L I L A E L L H

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**BstBI (1933)**  
1901 ACGTGCTTACGGAGTCAGAGAAAATAAAGTTTTTCGAAAAGTCTAAGAAAAGGCGACTTCTCTAATGATATATTCGACAACAAAAGAAAAGCCTTCTAA  
447▶ T C F T E S E K I K F F E S L R K G D F S N D I F D N K E K S L L  
2001 AAAAATACTCTCAGAGAAAACCAAGGACCGACTGAGACATCTGAAATCCTGAAGACCTTGGCTGAATGGAGGAACATCTCAGAGAAAAGAAAAGAAA  
480▶ K K L L S E K P K D R P E T S E I L K T L A E W R N I S E K K K R N

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**MscI (2168)**  
**NheI (2162)**  
2101 CACATGTTAGGGCCTTTCTGAGAAAACATTCCTCTGCCGTGGTTTTCTTTAACGATCTGCAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTT  
513▶ T C •  
2201 TGGACAAACCACAACCTAGAATGCAGTGAATAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAA

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**HpaI (2300)**
**MfeI (2311)**
**EcoRI (2396)**  
2301 GTTAAACAACAACATTGCATTCTTTATGTTTCAGGTTCCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAATGTGGTATGGAAT  
2401 TCTAAAATACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCC  
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2501 AATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGTATTTTCCCAAGTTTGAAGTCTTTCATTCTTTATGTTTT **SapI (2578)**

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2601 AAATGCACTGACCTCCACATTCCCTTTTTAGTAAAAATTCCAGAAATAATTTAAATACATCATTGCAATGAAAAATAATGTTTTTTATTAGGCAGAATC **SspI (2635)** **SwaI (2649)**

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2701 CAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTAAATAGAAATTGGACAGCAAGAAAGCGAGCTTC

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2801 TAGCTTTAGTTCTGGTGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGTTGCCATTCATCTCAATGAGCACAAAGCAGTCAGGAGCAT  
 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 V F C D P A Y

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2901 AGTCAGAGATGAGCTCTCTGCATGCCACAGGGGCTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGTGCCTGACAGCCACAATGGTGC  
 109 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 R V A V I T D **BstXI (2939)**

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3001 AAAGTCCTTCTGCCGTTGCTCAGCAGACCCAATGGCAATGGCTCAGCACAGACAGTGCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATG  
 76 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 E I H V A S I **StuI (3074)**

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3101 ATCTCCCAGTCTTGGTCTGATGGCCGCCGACATGGTGTCTTGTCTCATAGAGCATGGTGTCTTCTCAGTGGCGACCTCCACCAGCTCCAGAT  
 42 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 V E V L E L D **AseI (3282)**

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3201 CCTGCTGAGAGATGTTGAAGTCTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGC  
 9 Q Q S I N F T K M

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3301 GTGGATGGCGTCTCCAGCTTATCTGACGGTTACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCTACCGCCATTTGCGTCAATGGGGC **SacI (3339)**

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3401 GGAGTTGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAAACAACTCCCATGACGTCAATGGGGTGAGACTTGAAATCCCCGTGAGTCA **SpeI (3437)**

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3501 AACCGTATCCACGCCATTGATGTAAGTCCGATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATA **SnaBI (3565)**

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3601 AGGTCATGTAAGTGGCATAATGCCAGGCGGGCATTACCCTGATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGATGTAAGTCCCAAGT **NdeI (3670)**

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3701 GGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTACTATGGGAACATACGTCAATATTGACGTCAATGGGCGGGG

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3801 TCGTTGGCGGTGAGCCAGGCGGGCATTACCCTAAGTTATGTAACGCTGCAGGTTAATAAGAACATGTGAGCAAAAGCCAGCAAAAGCCAGGAA **SdaI (3848)** **Pacl (3856)** **BspLU111 (3866)**

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3901 CCGTAAAAAGGCCGCTTGTGGCGTTTTTCCATAGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACA

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4001 GGACTATAAAGATACCAGCGTTTTCCCTGGAAGCTCCCTCGTGGCTCTCTGTTCCGACCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTT

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4101 CGGAAGCGTGGCGTTTCTCATAGCTCAGCTGTAGGTATCTCAGTTCGGTGTAGGTGTTCCGCTCAAGCTGGGCTGTGTGCACGAACCCCGTTCA **ApaLI (4180)**

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4201 GCCCGACCGTGCCTTATCCGTAATATCGTCTTGTAGTCAACCCGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGC

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4301 AGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGC

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4401 CAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAACCACCGTGGTAGCGGTGGTTTTTTGTTTGAAGCAGCAGATTACGCGCAG

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4501 AAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGCTGTGACGCTCAGTGGAAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAA **Pacl (4596)**

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4601 TTAACATTTAAATCAGCGGCCGCAATAAAATATCTTTATTTTATTACATCTGTGTGGTTTTTTGTGTGAATCGTAACATAACATACGCTCTCCATCA **EagI (4616)** **SwaI (4605)** **NotI (4615)**

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4701 AAACAAACGAAACAAACAAACTAGCAAAATAGGCTGTCCCAGTCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA