



**PvuI (7)**  
**SgfI (6)** **MfeI (82)** **EcoNI (96)**  
1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA  
101 GAGAAGGTGGCGCGGGTAAACTGGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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**Psp1406I (203)** **HindIII (245)** **Bsu36I (291)**  
**EcoNI (287)**  
201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACAGCGCCCGCCGCTACCTGAGGCC  
301 GCCATCCACGCGGTTGAGTCGCGTTCTGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

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**NgoMIV (441)** **NaeI (441)**  
401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGTCTTTGTTTCGTTT

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**BstEII (555)**  
**KasI (535)** **AgeI (552)** **NcoI (560)**  
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCGCTACCTGAGATCACCGGTACCATTGGAGAAATGGTACTTGATGACAGTAGTGGTTTTAAT  
1▶ M E K W Y L M T V V V L I

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**Tth111I (618)**  
601 AGGACTAACAGTACGATGGACAGTGTCTCTTAATTTCTTATTTCAGGTGCTGGTAAACCGCCTATGTTTGGTGATTATGAAGCTCAGAGACTGGCAAGAA  
13▶ G L T V R W T V S L N S Y S G A G K P P M F G D Y E A Q R H W Q E  
**AgeI (714)**  
701 ATAACTTTAATTTACCGGTCAAACAATGGTATTTTAACAGCAGTGATAACAATTTACAGTATTGGGGATTGGATTACCCACCTTTACAGCTTATCATA  
47▶ I T F N L P V K Q W Y F N S S D N N L Q Y W G L D Y P P L T A Y H

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**BbrPI (860)**  
**NdeI (812)** **XcmI (852)**  
801 GTCTCCTATGTGCATATGGCAAAGTTTATAAATCCAGACTGGATTGCTCTCCATACATCACGTGGATATGAGAGTCAGGCACATAAGCTCTTCATGCG  
80▶ S L L C A Y V A K F I N P D W I A L H T S R G Y E S Q A H K L F M R  
901 TACAACAGTTTAAATGCTGATCTGCTGATTTACATACCTGCAGTGGTTTTGACTGTTGTTGCTTAAAGAAATCTCAACTAAGAAAAAGATTGCTAAT  
113▶ T T V L I A D L L I Y I P A V V L Y C C C L K E I S T K K K I A N  
1001 GCATTATGCATCTTGCTGTATCCAGGCCTTATTCTTATAGACTATGGACATTTTCAATATAAATCTGTGAGTCTTGGCTTTGCTTTGGGGTGTCTTG  
147▶ A L C I L L Y P G L I L I D Y G H F Q Y N S V S L G F A L W G V L

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**AvrII (1122)**  
1101 GAATATCTTGACTGCGACCTCCTAGGCTCACTGGCATTGTTGCTTAGCTATAAATTATAAACAGATGGAACCTTACCACGCCTTGCCATTTTTTTGCTT  
180▶ G I S C D C D L L G S L A F C L A I N Y K Q M E L Y H A L P F F C F  
1201 TTTACTTGGAAGTGTGTTTAAAAAGGCCTCAAAGGAAAGGGGTTTGTGTTGCTAGTTAAGCTAGCTTGTATTGTTGGCTTCTTCTGTTCTGCTGG  
213▶ L L G K C F K K G L K G F V L L V K L A C I V V A S F V L C W  
**SdaI (1329)** **BbsI (1343)**  
1301 CTGCCATTCTTACAGAAAGGGAACAAACCTGCAGGTTCTAAGAAGACTCTTCCGGTGTGATCGTGGATTATTTGAGGATAAAGTAGCCAATATTTGGT  
247▶ L P F F T E R E Q T L Q V L R R L F P V D R G L F E D K V A N I W

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**SphI (1495)**  
1401 GCAGCTTCAATGTCTTTCTGAAGATTAAGGATATTTGCCACGTACATCCAATTAATAATGAGCTTTTGTITACGTTTTTGGAGCTGCTTCCCTGCATG  
280▶ C S F N V F L K I K D I L P R H I Q L I M S F C F T F L S L L P A C  
1501 CATAAAATTAATACTTCAGCCCTCTTCAAAGGATTCAAATTTACACTGGTGTAGCTGTGCGCTATCATTCTTTTTATTTCTTTCCAAGTACATGAAAA  
313▶ I K L I L Q P S S K G F K F T L V S C A L S F F L F S F Q V H E K

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**BstXI (1601)**  
1601 TCCATTCTTGGTGTCACTACCAGTCTGCTTAGTTTTAAGTGAATTCCTTTTATGCTACTTGGTTTTTACTTGTGCAACATTTAGTATGCTACCTC  
347▶ S I L L V S L P V C L V L S E I P F M S T W F L L V S T F S M L P  
1701 TTCTATTGAAGGATGAACCTCAATGCCCTCTGTTGTGACAACAAATGGCAATTTTTATAGCTTGTGAACTTCTTTTCAATATTTGAAAAGACTTCTGA  
380▶ L L L K D E L L M P S V V T T M A F F I A C V T S F S I F E K T S E  
1801 AGAAGAAGTGCAGTTGAAATCCTTTTCCATTTCTGTGAGGAAATCTTCCATGTTTACATTTCTTTCCAGAATTATACAATATTTGTTCTTATCTCA  
413▶ E E L Q L K S F S I S V R K Y L P C F T F L S R I I Q Y L F L I S

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**BamHI (1941)**  
1901 GTCATCACTATGGTGCTTCTGACGTTGATGACTGTCACTGGATCCTCCTCAGAAACTACCGGACTGTTTTCTGATTGGTGTGTTTTGTATCTTGCT  
447▶ V I T M V L L T L M T V T L D P P Q K L P D L F S V L V C F V S C

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**Bst1107I (2020)**  
2001 TGAACCTCCTGTTCTTCTTGGTATACTTTAACATTATTATTATGTGGGATTCAAAAGTGAAGAAATCAGAAGAAAATCAGCTAGCTGTATTCCTAAC  
480▶ L N F L F F L V Y F N I I I M W D S K S G R N Q K K I S •

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**EcoRI (2133)**  
2101 AAATTGTTTCTAAACAATGTGAAAATGTGAAGAATTCGCTAGCTCGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTG  
2201 AAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAAC

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**HpaI (2302)** **MfeI (2313)** **EcoRI (2398)**  
2301 AAGTTAAACAACAATTGCATTCTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAAACCTCTACAAATGGGTATGGA  
2401 ATTCTAAAATACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTG  
2501 CCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTCATGGAGTTTAAAGATATAGTGTATTTTCCCAAGTTTGAAGTACTGCTTCTTCTTTATGTT

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**SwaI (2651)**  
2601 TTAATGCACTGACCTCCACATTCCTTTTTAGTAAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGCGAGAA

**EcoO109I (2712)**  
 2701 TCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTAAATAGAAATTGGACAGCAAGAAAGCGAGCT

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2801 TCTAGCTTTAGTTCTGGTGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCAATGAGCACAAAGCAGTCAGGAGC  
 —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

SacI (2912) BstXI (2941)  
 2901 ATAGTCAGAGATGAGCTCTGTCACATGCCACAGGGGTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTG  
 110 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 R V A V I T

3001 TCAAAGTCCTTCTGCCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGA  
 76 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 E I H V A S I

3101 TGATCTCCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTCTTGTGTCCTCATAGAGCATGGTGTCTTCTCAGTGGCGACCTCCACCAGCTCCAG  
 43 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

**BspHI (3226)**  
 BbsI (3222) **XmnI (3218)**  
 3201 ATCCTGCTGAGAGATGTTGAAGTCTTCTATGATGGCCCTCCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACA  
 10 D Q Q S I N F T K M

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3301 GCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCACATAACGAGCTCTGCTTATATAGACCTCCACCCTACACGCCTACCGCCATTTGCGTCAATGGG

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**SpeI (3439)**  
 3401 GCGGAGTTGTTACGACATTTTGGAAAGTCCCCTGATTACTAGTCAAAACAACTCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAG

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**SnaBI (3567)**  
 3500 TCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCC

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NdeI (3672)  
 3600 ATAAGTTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGCGTACTTGGCATATGATACACTTGTACTGCCAA

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3700 GTGGGCAGTTTACCGTAAATACTCCACCATTGACGTCAATGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCAATTATTGACGTCAATGGGCGG

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SdaI (3850) PacI (3858) **BspLU111 (3868)**  
 3800 GGGTCGTTGGGCGTCCAGCAGGCGGGCCATTTACCGTAAGTTATGTAACGCTG C A G G T T A A T T A A G A A C A T G T G A G C A A A A G G C C A G A A A A G G C C

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3898 AGGAACCGTAAAAAGGCCGCTTGTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACC

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3998 CGACAGGACTATAAAGATACCAGGCGTTTCCCCTGGAAGTCCCTCGTGGCTCTCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCCTTCT

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**ApaLI (4182)**  
 4098 CCCTTCGGAAGCGTGGCGCTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCCC

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4198 GTTCAGCCCAGCCGCTGCGCCTTATCCGGTAACTATCGTCTTGTAGTCCAAACCCGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAAACAGGA

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4298 TTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCT

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4398 GAAGCCAGTTACCTTCGGAAGAGATTGGTAGCTCTTGTATCCGGCAAACAAACCACCCTGGTAGCGGTGGTTTTTTTGTGTTGCAAGCAGCAGATTACG

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4498 CGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGCTGACGCTCAGTGGAAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTA

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**EagI (4618)**  
 PacI (4598) SmaI (4607) **NotI (4617)**  
 4598 GTTAATTAACATTTAAATC AGCGGCCCAATAAAATATCTTTATTTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTC

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4698 CATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA