



**PvuI (7)**  
**SgfI (6)** 1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGCAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA **MfeI (82)**  
101 GAGAAGTGGCGCGGGTAAACTGGAAAGTGATGCTGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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**HindIII (245)**  
**Psp1406I (203)** 201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACCGCGCCGCCCTACCTGAGGCC **PvuII (239)** **Bsu36I (291)**  
301 GCCATCCACGCGGTTGAGTCGCGTTCTGCCGCTCCCGCTGTGGTGCCTCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

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**NgoMI (441)**  
**NaeI (441)** 401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCTGCTTCTCAACTCTACGTCTTTGTTTCGTTT

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**NcoI (560)**  
**BstEII (555)**  
**AgeI (552)** 501 TCTGTTCTGCGCGGTTACAGATCCAAGCTGTGACCGGCGCTACCTGAGATCACCGGTACCCATGGCTGTGACGACGCTCTGCTCCCGTCTTCTCCAC  
601 GTTCGCGTCCGGCCGGCGGGAAGGAGAAGACTGCGTCCAGCAGGTGCCCGACTAACCGTTGGCGTGAGAACTCTCTCACATGAAGCGACTTCCC  
13▶ F A S G P A G R E K T L R P A G A P T N R W R E E L S H M K R L P

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**BstXI (740)**  
**MscI (737)** 701 CCCTTCCCGCCGCCCTACGACCTGGCGGCGACGGTGGCCACAGACCTGGAGAGTGGCGGAGCTGGTGCAGCTTGCAGCAGTAACAACCCGGCCCTCC  
47▶ P L P G R P Y D L A A T V A T D L E S G G A G A A C S S N N P A L  
801 TAGCCCGAGGGAGACCGAGGAGTTCAACGACCTCCTGGACCTAGACTTTATCCTTTCCAACCTCGTAACCCACAGGAATCGGTGGCCGCCACCGTGC  
80▶ L A R R E T E E F N D L L D L D F I L S N S L T H Q E S V A A T V T

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**BssHII (953)** **PstI (966)** **BstEII (997)**  
901 CACCTCGGCGTCAGCTTTCATCCTCGTCTTCCCCAGCGAGCAGCGCCCTGCCAGCGCCCTCCACCTGCAGCTTTCAGCTATCCGATCCGGCCGGGGGT  
113▶ T S A S A S S S S S P A S S G P A S A P S T C S F S Y P I R A G G

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**XmaI (1002)**  
**SmaI (1002)** 1001 GACCCGGCGTGGCTGCCAGCAACACAGGTGGAGGGCTCCTTACAGCCGAGAATCTGCGCCACCTCCACGCGCCCTTCAACCTGGCGGACATCAATG  
147▶ D P G V A A S N T G G G L L Y S R E S A P P P T A P F N L A D I N

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**Bst1107I (1156)**  
1101 ACGTGAGCCCTCGGGCGGCTTCGTTGGCTGAGCTCCTGCGCCGGAGTTGGACCCAGTATACCTCCGCCACAGCAGCCTCAGCCGCCAGGTGGCGGGCT  
180▶ D V S P S G G F V A E L L R P E L D P V Y I P P Q Q P Q P P G G G L  
1201 GATGGCAAGTTTGTGCTGAAGCGTCTCTGACCACCCCTGGCAGCGAGTACAGCAGCCCTTCGGTATCAGTGTAGCAAAGGAAGCCAGACGGCAGC  
213▶ M G K F V L K A S L T T P G S E Y S S P S V I S V S K G S P D G S

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**DraIII (1300)**  
1301 CACCCGTGGTAGTGGCGCCTACAGCGGTGGCCCGCGCATGTGCCAAGATTAAGCAAGAGGGGTCCCGTCTGCAGGTGACCGGTCCCTAG  
247▶ H P V V V A P Y S G G P P R M C P K I K Q E A V P S C T V S R S L

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**Eco47III (1411)**  
**AfeI (1411)**  
**XcmI (1404)** 1401 AGGCCATTGAGCGCTGGACCCAGCTCAGCAACGGCCACCGGCCAACACACAGACTTCCCCTGGGGCGGAGCTCCCAACAGGACTACCCCTAC  
280▶ E A H L S A G P Q L S N G H R P N T H D F P L G R Q L P T R T T P T

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**Bsp120I (1579)**  
1501 ACTGAGTCCCGAGGAAGTGTGAACAGCAGGGACTGTCACCTGGCTGCTCTTCCCCAGGATTCCATCCCATCCGGGCCAACTACCTCCTTTCC  
313▶ L S P E E L L N S R D C H P G L P L P P G F H P H P G P N Y P P F  
1601 CTGCCAGACCAGATGCAGTCACAAGTCCCCTCTCTCCATTATCAAGAGCTCATGCCACCGGGTCTGCTGCTGCCAGAGGAGCCAAAGCAAAGAGGGAA  
347▶ L P D Q M Q S Q V P S L H Y Q E L M P P G S C L P E E P K P K R G  
1701 GAAGGTCGTGGCCCGGAAAAGAAGCAGCCACCCACTTGTGACTATGCAAGGTGTGGCAAACTATACCAAGAGTTCATCTCAAGGCACACCTGCG  
380▶ R R S W P R K R T A T H T C D Y A G C G K T Y T K S S H L K A H L R

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**BsrBI (1860)**  
1801 AACTCACACAGGCGAGAAACCTTACCACTGTGACTGGGACGGCTGTGGGTGAAATTCGCCCGCTCGGATGAAGTACCAGGCACTACCGCAACACACA  
413▶ T H T G E K P Y H C D W D G C G W K F A R S D E L T R H Y R K H T

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**BspEI (1987)**  
1901 GGGCACCGCCCTTTCAGTGCCAGAAGTGCACAGGGCCTTTCCAGGTGGACCACCTTGCCTTACACATGAAGAGGCACTTTGAGTCCGGAGGGGTG  
447▶ G H R P F Q C Q K C D R A F S R S D H L A L H M K R H F E S G G G

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**BamHI (2044)**  
**Tth111I (2012)** 2001 GCTCTCTGGCAGACGTCGTGCGCCAGACGAGGCGCCGCGCGGATCCTATCCCTATGATGTGCCAGACTATGCTGGCTATCCATATGATGTTCTGA  
480▶ G S P G R R R R R R R R R R R R R R R G S Y P Y D V P D Y A G Y P Y D V P D **SacII (2040)** **NdeI (2084)**

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**MscI (2147)**  
**NheI (2141)** 2101 TTATGCTGGATACCCTTATGATGTGCCAGACTATGCCTAAAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTGGACAAACCACAACCTAGAAT  
513▶ Y A G Y P Y D V P D Y A •

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**HpaI (2279)** **MfeI (2290)**  
2201 GCAGTAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGTGAATAAACAAGTTAAACAACAATTGCATT

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**EcoRI (2375)**  
2301 CATTTTATGTTTCAGGTTGAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTTACAAATGTGGTATGGAATCTAAAATACAGCATAGCAAA

2401 ACTTTAACCTCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGCTGTTGCCAATGTGCATTAGCTGTTTGA  
 2501 GCCTCACCTTCTTTCATGGAGTTAAGATATAGTGATTTTTCCAAGTTTGAAGTAGCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACAT  
 2601 TCCCTTTTATAGTAAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCAT  
 2701 AATATCCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTAC  
 2801 TTGAGGGGATGAGTTTCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGC  
 135 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 D S I L E R C  
 2901 ACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCT  
 102 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 F D K Q G N S  
 3001 CACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCCAATGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTG  
 69 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 I E G T K T R  
 3101 ATGGCCGCCCGACATGGTGTCTTGTCTCATAGAGCATGGTATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGG  
 35 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 Q Q S I N F T  
 3201 TCTTCATGATGGCCCTCCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTA  
 2 K M  
 3301 TCTGACGGTTCATAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGG  
 3401 AAAGTCCCGTTGATTTACTAGTCAAAAACAACTCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATT  
 3500 GATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGGCATAA  
 3600 TGCCAGGCGGGCATTACCCTCATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCAGTTTACCGTAAATACT  
 3700 CCACCCATTGACGTCAATGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCAATTATTGACGTCAATGGGCGGGGTCTGTTGGGCGGTACGCCAGG  
 3800 CGGGCCATTTACCGTAAGTTATGTAACGCCTGCGAGGTTAA TTAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGCCGCGTT  
 3898 GCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAGATACCA  
 3998 CGGTTTTCCCCTGGAAGCTCCCTCGTGCCTCTCTGTTCCGACCCTGCCCTTACCGGATACCTGTCCGCTTTCTCCCTTCGGAAGCGTGGCGCTTT  
 4098 CTCATAGCTCAGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCAAGCTGGGCTGTGTGCACGAACCCCGTTCCAGCCGACCGCTGCGCCTT  
 4198 ATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGC  
 4298 GGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGA AAAA  
 4398 GAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGA  
 4498 AGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCG  
 4598 GCCGCAATAAAAATATCTTTATTTTTCATTACATCTGTGTGTTGTTTTTTGTGTGAATCGTAACATAACATACGCTCTCCATCAAAAACAAACGAAAACAAA  
 4698 CAAACCTAGCAAAAATAGGCTGTCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA