



**PvuI (7)**  
**SgfI (6)** 1 GGATCTGCGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA  
**MfeI (82)**  
101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTATGTCGTGTACTGGCTCCGCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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**Psp1406I (203)** 201 GTGAACGTTCTTTTTCGCAACGGGTTTCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCCTTACCGCGCCCGCCCTACCTGAGGCC  
**HindIII (245)**  
**Bsu36I (291)**  
301 GCCATCCACGCCGGTTGAGTCGGTCTTCCGCGCTCCCGCTGTGGTGCCTCCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

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401 GGGCCTTTGTCCGGCGCTCCCTTGAGCGCTACCTAGACTCAGCGGGCTCTCCACGCTTTGCTGACCCGCTTGTCTCAACTCTACGCTTTTGTTCGTTT  
**NgoMIV (441)**

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501 TCTGTTCTGCGCGGTTACAGATCCAAGCTGTGACCGCGCTACCTGAGATCACCGGTACCATTGGACTTCCCACAATTTCCGATCCCCTTCGGGGCC  
**BstEII (555)**  
**AgeI (552)**  
1▶ M D F P T I S R S P S G P

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601 TCCAGCCATGGACTTGGAGGGGCCAGGGACATTCTTGTGCCCTTCGGAGGACCTACCCTGACAGCCAGTGGGACCCTATGCCAGGAGGCCCGGCAGC  
**SandI (671)**  
13▶ P A M D L E G P R D I L V P S E D L T P D S Q W D P M P G G P G S  
701 CTCAGTCGGATGGAACCTGATGAGTCAAGCCTTCAGGAGCTGGTGCAGCAGTTGAAGCTCTGCCAGGCGATCTGGTGGGCCATCCCAGGTGGAGCCC  
47▶ L S R M E L D E S S L Q E L V Q Q F E A L P G D L V G P S P G G A  
801 CCTGTCCCCTACACATTGCCACAGGCCATGGCTGGCTCCAGGAGATTGCTGATGCCACGGGCTCCTGTCTGCCAAGCTGGCCGGGATGACCTGCT  
80▶ P C P L H I A T G H G L A S Q E I A D A H G L L S A E A G R D D L L

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901 GGGCCTTTGCACTGCGAGGAATGCCCGCTTCCAGACTGGTCTGAAGAGCCTTAGAGCCTGCCCCCGACTGTTGCAGCCCTGAGGACCCAGAT  
**XbaI (954)** **Bsu36I (985)**  
113▶ G L L H C E E C P P S Q T G P E E P L E P A P R L L Q P P E D P D  
1001 GAGGATTCGACTCCCCAGAATGGTGGAGGGGCTCTGCTGAGCAGGAGGGCAGCAGGAGCTCAAGCAGTCCCCGGAACCTGGCTGGAGACGGTGC  
147▶ E D S D S P E W V E G A S A E Q E G S R S S S S S P E P W L E T V

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1101 CTCTAGTCACACCTGAAGAGCCACCGCTGGTCCAGAGCCCGAGACCCTGGCTTCTACCTGCCCCAGGAGGTGCCTGGTCCCTGTGACCATGA  
**BbsI (1198)**  
180▶ P L V T P E E P P A G A Q S P E T L A S Y P A P Q E V P G P C D H E

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1201 AGACCTCCTGGACGGTGTCAATTTGGGGCCAGGTACTGGGTCCACCCAGCTGGTGTGGAAACGGAACCCGCCACCAGCAGCGCATGGCCAGGCC  
**Acc65I (1232)** **XmaI (1298)** **SfiI (1296)**  
213▶ D L L D G V I F G A R Y L G S T Q L V S E R N P P T S T R M A Q A  
1301 CGGGAGGCCATGGACCGCTCAAGGCCCGGATGGGGAGACCCAGCCATGACGGAGGTGGACCTGTTCTGCTCCACCAAGAGGATCAAGGTTGACAG  
247▶ R E A M D R V K A P D G E T Q P M T E V D L F V S T K R I K V L T  
1401 CGGACTCCAGGAGGCCATGATGGACCAGCCCTGCATACCATCTCTACACAGCCAGATCGGCTGCGTGTGGTGTGATGGCGGGCGGGCTGGC  
280▶ A D S Q E A M M D H A L H T I S Y T A D I G C V L V L M A R R R L A

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1501 ACGGAGGCCGACCCAGGACCCAGCCGCGCCCTTACAAGATGCTCTGCCACGTATTCTACGCGGAGGACGCCAGCTCATGCCAGGCCATTGGC  
**NgoMIV (1506)** **EagI (1524)**  
313▶ R P A P Q D H G R R L Y K M L C H V F Y A E D A Q L I A Q A I G  
1601 CAGGCCTTCGCCCGCTACAGCCAGTTCCTACGGGAAAGCGGTATTGACCCAGCCAGGTGGGCGTGCACCCGAGCCAGCGCCGCCACCTCCATA  
347▶ Q A F A A A Y S Q F L R E S G I D P S Q V G V H P S P G A R H L H

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1701 ATGGGACCTGGACCACTTCTCAACAGTGACAAGTCCGGGAGGTGCACCTCGAGAAGCGGCGAGGGGAGGGCTGGGCGTGGCCCTGGTGGAGTCGGG  
**XhoI (1750)**  
380▶ N G D L D H F S N S D N C R E V H L E K R R G E G L G V A L V E S G

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1801 CTGGGCTCCCTGCTGCCACAGCCGTCATCGCCAACCTGCTGCACGGGGGCTGCTGAGCCTCGGGGCCCTCAGCATCGGGACCCGCTGACCGCC  
**Eco47III (1859)**  
413▶ W G S L L P T A V I A N L L H G G P A E R S G A L S I G D R L T A  
1901 ATCAACGGGACAGCCTGGTGGGCTGCCCTGGTGCCTGAGGAGGAGGAGTGCAGAGCTCGGTGACACTCAGCATCGTCCACT  
447▶ I N G T S L V G L P L A A C Q A A V R E T K S Q T S V T L S I V H

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2001 GCCCTCCCGTACCACCGCCATCATCCACCGCCCGCCAGCCGCGAGCAGTGGGCTTCTGCTGGAGGACGGCATCATCTGCAGCCTCCTCCGTGGTGG  
**BstAPI (2072)**  
480▶ C P P V T T A I I H R P H A R E Q L G F C V E D G I I C S L L R G G  
2101 CATCGCCGAGCGTGGGGCATCCGCGTCCGCCACCGCATCATTGAGATCAATGGGAGAGTGTGGTGGCCACGCCACCGCCGATCATCGAGTGTCTC  
513▶ I A E R G G I R V G H R I I E I N G Q S V V A T P H A R I I E L L  
2201 ACCGAGGCTATGGCAGGTGCATATCAAGACGATGCCAGTGCACATATCGCTCCTTACAGGCCAGGAGCAGCCGCTGTACTGTGACCACTCATC  
547▶ T E A Y G E V H I K T M P A A T Y R L L T G Q E Q P V Y L •

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2301 CCTGCTAGCTGCCAGACATGATAAGATACATTGATGAGTTTGACAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATG  
**NheI (2303)**

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2401 CTATTGCTTTATTTGTAACCATTATAAGCTGCAATAACAAGTAAACAACAACATTCATTCTTTATGTTTCAGGTTTCAGGGGAGGTGTGGAGGT  
**HpaI (2441)** **MfeI (2452)**

2501 **EcoRI (2537)**  
 TTTTAAAGCAAGTAAAACCTCTACAAATGTGGTATGGAATTCATAAATACAGCATAGCAAACCTTTAACCTCCAATCAAGCCTCTACTTGAATCCTTT  
 2601 TCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTTCATGGAGTTAAGATATAGTGTAT

2701 **SspI (2776)** **SwaI (2790)**  
 TTTCCAAGGTTTGAAGTAGCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTGTAGTAAATATTCAGAAATAATTTAAATAC  
 2801 ATCATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTGTAGTGTGGACTTAGGGAACAAA  
 2901 GGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTACTTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAG  
 3001 CTTGCCATTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCC  
 123 K G N M E I L 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  
 3101 ACCTCATCAGAGTAGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAG  
 89 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 I A I A E A C V T  
 3201 TGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGTCTGTTGTCCTCATAGAG  
 56 V R G I Y A 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  
**BbsI (3361)**  
 3301 CATGGTATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCTGCTGAGAGATGTTGAAGTCTTCATGGTGGCCCTCTATAGTGAGTCGTATTATAC  
 23 M T I K E T A V E V L E L D Q Q S I N F T K M  
**XmnI (3357)**  
 3401 **AseI (3423)**  
 TATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCATAAACGAGCTCTGCTTATATAGACC

3501 **SpeI (3578)**  
 TCCCACGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAAACAACTCCCAT  
 3601 TGACGTCAATGGGGTGGAGACTTGGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGAT

3701 **SnaBI (3706)**  
 GACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTAAGTGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGG

3801 **NdeI (3811)**  
 GGCGTACTTGGCATATGATACACTTGTACTGCAAGTGGGCGAGTTTACCGTAAATACTCCACCATTGACGTCAATGAAAGTCCCTATTGGCGTTA

3901 **PacI (3997)** **PstI (3990)** **SdaI (3989)**  
 CTATGGGAACATACGTCAATTATTGACGTCAATGGGCGGGGCTGTTGGCGGTGACCCAGGCGGGCCATTTACCGTAAGTTATGTAACCGCTGCAGGTTA

4001 **BspLU11I (4007)**  
 AITAAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAGGCCGCTTGTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATC  
 4101 ACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCTGGAAGCTCCCTCGTGGCTCTCCTGTTC  
 4201 GACCTGCGCTTACCGGATACCTGTCCGCTTTCTCCCTTGGGAAGCGTGGCGTTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCCGTGTAGGTC  
 4301 GTTCGCTCAAGCTGGGCTGTGTGCACGAACCCCGTTCAGCCGACCGTGGCGCTTATCCGGTAACTATCGTCTTGTAGTCCAACCCGGTAAGACAG  
 4401 ACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTA  
 4501 CACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGTCCGGCAAAACAAACCCGCTGGT  
 4601 AGCGGTGGTTTTTTTGTGTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGA

4701 **EagI (4757)** **PacI (4737)** **SwaI (4746)** **NotI (4756)**  
 ACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGCAATAAAAATATCTTTATTTTTCATTACATCTGTGTGT  
 4801 GGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAACGAAACAAACAACTAGCAAATAGGCTGTCCCAGTGCAAGTGCAGGTG  
 4901 CCAGAACATTTCTCTATCGAA