



**PvuI (7)**  
**SgfI (6)**  
 1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTCGGCAATTGAACGGGTGCCTA  
 101 GAGAAGGTGGCGCGGGTAAACTGGGAAAGTGATGTCGTGACTGGTCCGCCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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**Psp1406I (203)** **HindIII (245)**  
 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCCTTACGCGCCCGCCCTACCTGAGGCC  
 301 GCCATCCACGCCGGTTGAGTCGCGTTTCTGCCGCCTCCCGCCTGTGGTGCCTCCTGAAGTGCCTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

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

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**NcoI (560)**  
**BstEII (555)**  
**KasI (535)** **AgeI (552)**  
 501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCGCTACCTGAGATCACCGGTACCATGGGAGACTGCTGCTCCTGACCTTGTCTCGT  
 601 GGCCAGTCTGCACCTTGAATGCCTTCTGCTTTTGTAGTGGCCAGAGGGCTATCTATCGTGGCTGCAACCTCACCCAGGTTCCCAAGTCCCAAGTGGC  
 13▶ A S P A L G M P S C F F D G Q R A I Y R G C N L T Q V P Q V P S G  
 701 ACCAAGAGCCTCCTGCTCAGCTTCAACTACATCAGGACGGTACAGCTGGTTCCTTCCCTTCTGGAGGGGCTGCAGCTGCTGGAGCTCGGGACTCAGT  
 47▶ T K S L L L S F N Y I R T V T A G S F P F L E G L Q L L E L G T Q

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**Ppu10I (896)**  
**NsiI (896)**  
 801 TGAATCCCTTGGACATTGACAGGGAAGCCTTCAGGAACCTGCCAATCTCAGGATCTTGGACCTGGGCCATAGTCAGATCGCATTCTTGCACCCAGATGC  
 80▶ L T P L S I D R E A F R N L P N L R I L D L G H S Q I A F L H P D A  
 901 ATTCAGGAAGTCCCACTCTTCTGAACTTCGACTGTTTCTGTGGTCTCTCTGATGCTATCTTAAAGATGGTATTTTTCAGAAATTTGGCATCTTTA  
 113▶ F Q E L P H L S E L R L F S C G L S D A I L K D G Y F R N L A S L

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**BbsI (1034)** **EcoRI (1065)**  
 1001 ACTCGCTTGGACCTATCCAAAAATCAGATTGAGAGTCTTACCTTCATCCTTCCAGGAAGTGAATTCCTGAAGGCCATTGATCTGTCCTCAACC  
 147▶ T R L D L S K N Q I Q S L H L H P S F Q E L N S L K A I D L S L N

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**BsrGI (1181)**  
 1101 AGATACCCCTTGTGTGCGAGCAGGGCTCAAACCCCTCCAAGGAAAACGCTCTCCTTTTTAAGCCTTGGGATAATAAACCTGTACAGTAGGGTCTCGGT  
 180▶ Q I P L V C E Q G L K P L Q G K T L S F L S L A D N N L Y S R V S V  
 1201 GGATTTGGGGAAGTGTATGAACCTTTAGAAACATGGCCTTGAAGTCTGATGTTTCTGGCAATGGCTGGACAGCGGACACCACAAGGAAGTTCAGC  
 213▶ D W G K C M N P F R N M A L E M L D V S G N G W T A D T T R N F S  
 1301 CAGGCCGTCATGGAAGCCAGATTTCTCCTTGGTTCGCCCCACACATTATGGGTTCTGGGTTTGGCTTCCATAACATCAAAGATCCTGACCATCACA  
 247▶ Q A V N G S Q I S S L V L A H H I M G S G F G F H N I K D P D H H

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**SandI (1483)**  
 1401 CCTTGGCCAGCCTGGGAGGAGCTCCCTGATACAGCTGGACCTTCTCATGGGTTTATCTTCTCCCTGAACTTCCGACTCTTTGGGACCTCAAGGAGCT  
 280▶ T F A S L G R S S L I Q L D L S H G F I F S L N F R L F G T L K E L

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**BspLU11I (1583)**  
 1501 GAAAGTTCTGAACCTGGCCTTCAACAAGATAAACAAGATTGCAGACCAAGCATTTCATGGACTTGACAACCTCCAGATTCTCAACATGTCATATAACCTT  
 313▶ K V L N L A F N K I N K I A D Q A F H G L D N L Q I L N M S Y N L  
 1601 CTGGGGAACTATATAAATCTAATTTTGAAGGACTGCCTAAGCTCGCTTATATTGATCTGCAGAAGAATCACATTGGGATCATTACAGGACCAACATTC  
 347▶ L G E L Y N S N F E G L P K L A Y I D L Q K N H I G I I Q D Q T F  
 1701 GGTTCTAAAAAATTAATACCTTGGATCTCCGGGATAATGCTTAAAAACAATTCAGTTTATTCGAGCATACTACTCTCTTGGGGGCAATAA  
 380▶ R F L K K L N T L D L R D N A L K T I Q F I P S I P T L F L G G N K

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**Asp718I (1896)**  
**Acc65I (1896)**  
 1801 ACTGGTGACTTTGCCAAACATCAGGCTTACGGCCAACTTCATCCACTTATCAGAGAACAGGCTAGAAAATCTGGATAACCTCTACTTCTCTCCAGGTA  
 413▶ L V T L P N I R L T A N F I H L S E N R L E N L D N L Y F L L Q V  
 1901 CCTCATCTCAGATTCTCATTTTAAATCAAATCGCTTTTCAATTGTAACAGAGGCACGGCCTTCCAGAGAATCCAGCTTGGAACAGCTTTTCTCG  
 447▶ P H L Q I L I L N Q N R F S N C N Q R H A P S E N P S L E Q L F L

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**NgoMIV (2029)**  
**NaeI (2029)**  
 2001 GAGAAAATATGTTGCAACTTGCCTGGGAAGCCGGCTTCTGTTGGGATGTTTTTAAAGGGCTTCTCATCTCCAAGTCTGTATTTGAATAACAACCTACCT  
 480▶ G E N M L Q L A W E A G F C W D V F K G L S H L Q V L Y L N N N Y L  
 2101 GAATTTCTTCCACCAGGAGTCTTTTCGCATCTGACTGCACTGAGGGGACTCAGCCTCAGCTACAACAGGCTAACAGTTCTTTATCCGGGTGACTTACCT  
 513▶ N F L P P G V F R H L T A L R G L S L S Y N R L T V L Y P G D L P

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**XhoI (2206)** **DraIII (2267)** **PshAI (2281)**  
 2201 GCTCACCTCGAGGTCCTGGATCTATCCAGAAACAGCTCCTCTCTCCCGATCCTGACTTATTCACCTCACTAAGTCCCGTGGACCTGAGTCATAACAAGT  
 547▶ A H L E V L D L S R N Q L L S P D P D L F T S L S A V D L S H N K

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**XhoI (2369)**  
 2301 TTGTTTGTGACTGTGAACCTTAGCACTTTTATCAATTGGCTCAATCAAACCAATGTCACGATATTTGGGTCTCGAGATGATATACTGCATGTATCCGAG  
 580▶ F V C D C E L S T F I N W L N Q T N V T I F G S R D D I Y C M Y P S

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**NcoI (2432)**  
 2401 CTCGCTCGTGGGAGTCCCTCAACACCGTTTCCATGGCAGGTTGCACTGAAGAGGAAGTCTTAGAGTCCCTGAAGTTTTCCCTTTTTCATCTTGTTCCT  
 613▶ S L A G S P L N T V S M A G C S E E E V L E S L K F S L F I L F T

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**BspHI (2537)**  
 2501 GTCACCCTGACTCTGTTTTCTGGCCATCCTCGTAGTCATGAAGTTCGGGGATTTTGTTCATCTGTTATAAGAAAGTCCAGAGACTGGTGTTCAGG  
 647▶ V T L T L L F V A I L V V M K F R G F C F I C Y K K V Q R L V F K

2601 ACCCCAGCCTGGGAAGGGAATCAGATACATACAATACGATGCCTACTTATGCTTTAGTGGTAAAGACTTTGAATGGGTGCAGGAGGCGTTGCTCAAGAA  
680▶ D P S L G R E S D T Y K Y D A Y L C F S G K D F E W V Q E A L L K N  
2701 CCTGGATGCCAGTACAGCGACCAAAACAGATTGAACCTCTGCTTTGAAGAAAGAGACTTTGTCCGGGGGAAGATCGCATCAGCAACATCCAGGATGCC  
713▶ L D A Q Y S D Q N R L N L C F E E R D F V P G E D R I S N I Q D A  
2801 GTGTGGAGCAGCAGGAAGTTGTCTGTCTGGTGAACACTTCTTAGGGACGGCTGGTGCCTGGAAGCCTCAGTTACGCCAGAGCAGGTGCTTAG  
747▶ V W S S R K V V C L V S R H F L R D G W C L E A F S Y A Q S R C L  
2901 CAGACCTGAATGGCACCCCTCATCATGGTGGTGGTCCCTCAGTATCAACTGATGAAGCATCAGTCCATCAGAGGATTTGTCCGAAACAGCA  
780▶ A D L N G T L I M V V V G S L P Q Y Q L M K H Q S I R G F V R K Q Q  
3001 GTACTTGAGGTGGCTGAGGATCTCCAGGACGTGAGCTGGTTTCTCAACAAGCTCTCAATACATTCTAAAGAAAGTCAAGGAAAAGAAAGACAGC  
813▶ Y L R W P E D L Q D V S W F L N K L S Q Y I L K K V K E K K K D S  
3101 GACATTCAGTTGCAAAGCGTGACCATCTCCTAGTACGGGAGCAGTTTTTCACTTAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTGGACA  
847▶ D I Q L Q S V T I S •  
3201 AACCACAACTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAC  
3301 AACACAATTGCATTCATTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCATAAA  
3401 ATACAGCATAGCAAACTTTAACCTCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTTTGCCAATGTG  
3501 CATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGATTTTTCCCAAGGTTTGAAGTACTCTTCAATTTCTTTATGTTTTAAATGC  
3601 ACTGACCTCCACATTCCTTTTTAGTAAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATG  
3701 CTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTT  
3801 TAGTTCCTGGTGTACTTGAGGGGATGAGTTTCTCAATGGTGGTTTTGACCAGCTTGCCATTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAG  
140▶ 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 D S  
3901 AGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAAAGTC  
107▶ 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 F D  
4001 CTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCC  
74▶ 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 I E  
4101 CCAGTCTTGGTCTGATGGCCGCCCGACATGGTGTCTTGTGCTCATAGAGCATGGTATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCT  
40▶ 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 Q Q  
4201 GAGAGATGTTGAAGGTTCTTATGATGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGAT  
7▶ S I N F T K M  
4301 GGGCTCTCCAGCTTATCTGACGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTCGCTCAATGGGGCGGAGT  
4400 TGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAACAAACTCCCATTGACGTCAATGGGTGGAGACTTGGAAATCCCGTGAGTCAAACC  
4499 GCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGACTGCCAAGTAGGAAAGTCCATAAGGT  
4599 CATGTAAGTGGCATAATGCCAGGCGGGCCATTTACCGTATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGTACTGCCAAGTGGGCA  
4699 GTTACCCTAAATACTCCACCCATTGACGTCAATGAAAGTCCCTATTGGCGTTACTATGGAAACATACGTCATTATTGACGTCAATGGGCGGGGTCGT  
4799 TGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCTTGCAGGTTAA TTAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACC  
4897 GTAAAAAGGCCGCTTGTGCTGGCTTTTTCCATAGGCTCCGCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCAAACCCGACAGG  
4997 ACTATAAAGATACAGGCGTTTTCCCTGGAAGCTCCCTGTCGCTCTCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCCTTCTCCCTTCG  
5097 GGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCCGTTGAGTGCCTTCCGCTCAAGCTGGGCTGTGTGCACGAACCCCGTTCCAGC  
5197 CCGACCGCTGCGCTTATCCGGTAACTATCGTCTTGTGTTCAACCCGGTAAGACAGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAG  
5297 AGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCA  
5397 GTTACCTTCGAAAAAGAGTTGGTAGCTTGTATCGGCAACAAACCACCGCTGGTAGCGGTGGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAA  
5497 AAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAAT

**EagI (5610)**

Swal (5599) **NotI (5609)**

5597 AACATTTAAATC AGCGGCCGCAATAAAATATCTTTATTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAA  
5697 ACAAACGAAACAAACAAACTAGCAAATAGGCTGTCCCCAGTGCAAGTGCAAGTGCCAGAACATTTCTCTATCGAA