



**PvuI (7)**  
**SgfI (6)**  
1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGAGAAGTTGGGGGAGGGGTCGGCAATTGAACGGTGCCTA  
101 GAGAAAGTGGCGGGGTAACCTGGAAAGTGATGTCGTGACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

**Psp1406I (203)** **Bsu36I (291)**  
201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACGCGCCCGCCCTACCTGAGGCC  
301 GCCATCCACGCGGTTGAGTCGCGTTCTGCGCCCTCCCGCTGTGGTGCCTCCTGAAGTGCCTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

**NgoMIV (441)**  
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGCTTTGTTTCGTTT

**NcoI (560)**  
**BstEII (555)**  
**AgeI (552)**  
501 TCTGTTCTGCGCGTTACAGATCCAAGCTGTGACCGCGCGCTACCTGAGATCACCGGTACCATTGCCACAGATGATAAGACGTCCCAACACTGGACTC  
1 M A T D D K T S P T L D S

**SpeI (625)**  
601 TGCTAATGATTTGCTCGATCTCCTACTAGTCCTTCTCATCTCACACACTTTAAACCTTTGACTCCTGATCAAGATGAGCCCCCTTTTAAATCAGCTTAT  
13 A N D L P R S P T S P S H L T H F K P L T P D Q D E P P F K S A Y  
701 AGTTCTTTTGTAAATCTCTTTGTTTTAAACAAAGAGAGAGCAGAAGGAGGCCAGGAGAACAGCAGCCTTTGAGTGGAAAGTTGGACCAGCCCTCAGCTCC  
47 S S F V N L F R F N K E R A E G G Q G E Q Q P L S G S W T S P Q L

**Tth111I (807)** **BstEII (821)**  
801 CTTGAGGACACAGTCTGTTAGGTCACCCACACCTTATAAAAAAGCAGCTTAATGAGGAACTCCAGCGCGCTCTTACGATTAGACACAAGAAGGAAAGC  
80 P S R T Q S V R S P T P Y K K Q L N E E L Q R R S S A L D T R R K A

**BspHI (918)** **BstBI (944)**  
**Bsp119I (944)**  
901 AGAACCTACCTTTGGAGGTCATGACCCCTCGTACAGCTGTTGAGCTTCGAAAGCTCAGCACAGTATTAACACGCTCAAGGAAATCATGGAGGGGAAAAGC  
113 E P T F G G H D P R T A V Q L R S L S T V L K R L K E I M E G K S  
1001 CAGGATAGTGACCTGAAACAATACTGGATGCCAGATAGCCAATGTAAGAGTGTATGACTGTAGTGAGAAATTTACAACCTTAGGCGCAGACACCATT  
147 Q D S D L K Q Y W M P D S Q C K E C Y D C S E K F T T F R R R H H

**BstAPI (1124)**  
1101 GCCGACTATGTGGCAGATTTTCTGAGTCGTTGCTGTAATCAAGAAATCCCTGGAAAATTTATGGGCTATACAGGAGACCTCCGAGCTTGACATATTG  
180 C R L C G Q I F C S R C C N Q E I P G K F M G Y T G D L R A C T Y C  
1201 TAGAAAAATAGCCTTAAGTTATGCTCATTCCACAGACAGTAATCTATTGGGGAAGACTTGAATGCTCTTTCAGATTCTGCTGTCTGTGTCTGTGCTT  
213 R K I A L S Y A H S T D S N S I G E D L N A L S D S A C S V S V L  
1301 GATCCAAGTGAACCCGAACACCTGTTGGGAGTAGGAAAGCCAGCCGTAACATTTTTAGAGGATGATTTGGCCTGGCAAAGTTTGATTCATCCAGATT  
247 D P S E P R T P V G S R K A S R N I F L E D D L A W Q S L I H P D  
1401 CCTCAAATACTCCTTTCAACAAGACTGTATCTGTGCAAGAGGATGCTGGGAAATCTCCTGCTCGAAATAGATCAGCCAGCATTACTAACCTGTCACT  
280 S S N T P L S T R L V S V Q E D A G K S P A R N R S A S I T N L S L

**BglII (1504)** **Acc65I (1521)** **PshAI (1536)**  
1501 GGATAGATCTGGTTCCTTACCTTACATGAGACATCTGTGCTCCAGGCTAACCGAACATATGTTAGGACAGAGACCACTGAGGATGAACGC  
313 D R S G S P M V P S Y E T S V S P Q A N R T Y V R T E T T E D E R

**XcmI (1650)**  
1601 AAAATTCTTCTGGACAGTGTGCAAGTAAAGACCTGTGAAAAAATCTGCCATCACAGCAGTGAATGGAGTTTCAGGATCACCGCTACTGGTTGAGAA  
347 K I L L D S V Q L K D L L W K K I C H H S S G M E F Q D H R Y W L R  
1701 CGATCCCACTGCATTGTAGGAAGAAATTAGTCAACTGGCTAATCCGAAATGGGCATATTGCCACAAGGCCAAGCTATAGCAATTGGACAAGCAAT  
380 T H P N C I V G K E L V N W L I R N G H I A T R A Q A I A I G Q A M  
1801 GGTGATGGACGTTGGCTGGATTGTGTAGTCATCAGCAGCAGCTTTTCAGAGATGAGTATGCGCTGTATAGACCACTGCAGAGTACAGAATTTCTGAG  
413 V D G R W L D C V S H H D Q L F R D E Y A L Y R P L Q S T E F S E  
1901 ACGCCTTCTCCGACAGTGTGACTCAGTGAACCTCGTGAAGGACACTCTGAGCCATCTGGTTTAAAGACATAAAGTTTGTGACAGTACAGACAGAAACAGA  
447 T P S T P S D S V N S V E G H S E P S W F K D I K F D D S D T E Q  
2001 TAGCTGAAGAAGGTGACGATAATTTGGCTAATTTGCCAGTCTAGCAAGCGCACATCAGTCAGCAGTTTCCAGTCCACAGTGGACAGTACTCAGCCGC  
480 I A E E G D D N L A N S A S P S K R T S V S S F Q S T V D S D S A A  
2101 TCTATCAGCCTGAACGTGGAGCTGGACAACGTGAACCTCCATATCAAGAAAGCCCTCAAGTACCCACATGTGCCCCCTCACCTGCTGACCAAAAAGAG  
513 S I S L N V E L D N V N F H I K K P S K Y P H V P P H P A D Q K E  
2201 TATTTGATTTCTGACACTGGAGGACAACAGCTCTCAATAAGGTGACGCTTTTCATCAAAGAAATCTTATTTAATCGCCGAGTAGAGGAAAAATCCAAAGAGC  
547 Y L I S D T G G Q Q L S I S D A F I K E S L F N R R V E E K S K E

**Bsu36I (2343)** **NcoI (2372)**  
2301 TGCCTTTACACCTTTGGCTGGCATCATAACAACCTGGAGCTCCTGAGGGAGGAGAATGGGGAGAAAACAAGCCATGGAGAGGTTGCTTTACGCTAATCA  
580 L P F T P L G W H H N N L E L L R E E N G E K Q A M E R L L S A N H  
2401 TAACCACATGATGGCACTACTCCAGCAGTTGCTCCATAGTGACTCACTGCTCATCTTTGAGGGACATCATCGTGTCTTTGGTCTGCCAGGTTGTTGAG  
613 N H M M A L L Q Q L L H S D S L S S S W R D I I V S L V C Q V V Q

**EcoRV (2539)**  
2501 ACAGTCCGACCTGATGTCAAGAACCAGGATGATGACATGATTCGCTCAGTTTGTCCACATCAAAAAATCCAGGTGGAAAGAAGTTTATTCTGTGG  
647 T V R P D V K N Q D D D M D I R Q F V H I K I P G G K K F D S V  
2601 TTGTCAATGGCTTTGTTTGTACCAAGAACATTGCACATAAAAAGATGAGTTCTTGTATTA AAAACCCCAAAATCTTCTGTTGAAAGTGTTCATTGAGTA  
680 V V N G F V C T K N I A H K K M S S C I K N P K I L L L K C S I E Y  
2701 TCTCTACAGAGAAGAACTAAGTTTACTTTGATGATCCTATTGTGCTTCAGGAAAGGAAATTTGAAAGAAATATGTCCAGGAAATAGTTGATGTTGCA  
713 L Y R E E T K F T C I D P I V L Q E R E F L K N Y V Q R I V D V R  
2801 CCCACCTTGTTCTGTTGAGAAAACAGTGTCTCGGATTGCCAGGACATGTTATTGGAACATGGCATTACTTTGGTCTAATGTAAGTCAACAAGTTT  
747 P T L V L V E K T V S R I A Q D M L L E H G I T L V I N V K S Q V

2901 TGGACGAATCAGTCGAATGACCAAGGTGATTTAGTGATGTCAATGGACCAGCTGCTTACGAAACCACCTGGGCACTTGTACAAAATTTTATATGCA  
780▶ L E R I S R M T Q G D L V M S M D Q L L T K P H L G T C H K F Y M Q

BsrGI (3070)

3001 GATATTTTCAGTTGCCTAATGAACAAACCAAGACTGATGTTTTTTGAAGTTGTCCACAGCACCTAGGCTGTACAATCAAGCTAAGAGGAGGCTGTGAT  
813▶ I F Q L P N E Q T K T L M F F E G C P Q H L G C T I K L R G G S D

AvrII (3063)

3101 TATGAGCTGGCTCGAGTTAAGAGATCCTAATATTTATGATCTGTGTTGCTTATCATTCTCAACTAGAAATATCCTTTCTCATGGATGAATTTGCTATGC  
847▶ Y E L A R V K E I L I F M I C V A Y H S Q L E I S F L M D E F A M

3201 CTCCACATTAATGCAAAACCCCTTATTCCATTCCCTGATTGAGGGACGAGGGCATGAGGGGGCTGTCCAAGAGCAGTACGGTGGAGGTTCCATCCCTG  
880▶ P P T L M Q N P S F H S L I E G R G H E G A V Q E Q Y G G G S I P W

3301 GGATCTGACATCCCTCCTGAGTCTGCTCCCTGTGATAGCAGTTGCTGGAATTTGAGGATTTGTTGAGAAGGGTGGAGCAGGAAAATAAAAACTT  
913▶ D P D I P P E S L P C D D S S L L E L R I V F E K G E Q E N K N L

3401 CCGCAGGCTGTTGCTCTGTGAAGCATCAAGAACATAGCACAACAGCTTGCCTGCTTCTTTGACCTGTACCGGAATCATTGT  
947▶ P Q A V A S V K H Q E H S T T A C P A G L P C A F F A P V P E S L

3501 TGCCACTCCCTGTGGATGACCAACAAGATGCTTTAGGCAGCGAGCAGGACAGACTTTGCAGCAAAAGCTTGTCTGCAGGATCCAAAAGCCAGATAAG  
980▶ L P L P V D D Q Q D A L G S E Q P E T L Q Q T V V L Q D P K S Q I R

3601 AGCCTTTAGAGACCTCTACAGGATGACACTGGATTATGTTACTGAGGAAGTCACTCCTCTGAAGATAAACGAAAGACTTATCTTTGGCCTTTAAG  
1013▶ A F R D P L Q D D T G L Y V T E E V T S S E D K R K T Y S L A F K

3701 CAGGAATTAAGATGTGATCCTCTGTATCTCCCCAGTAACTACATTCCGAGAACCCTTTCTTTAACTGAAAAGGGGATGAGATGCTCTACCCGAGATT  
1047▶ Q E L K D V I L C I S P V I T F R E P F L L T E K G M R C S T R D

3801 ATTTTGCAGAGCAGGTTTACTGGTCTCCTCTCCTCAATAAAGAATTCAAAGAAATGGAGAACAGGAGGAAGAAACAGCTGCTCAGGGATCTCTGGACT  
1080▶ Y F A E Q V Y W S P L L N K E F K E M E N R R K K Q L R D L S G L

3901 TCAGGGCATGAATGGAAGTATTACGGCCAAGTCTATTCAAGTCTTACCCTCACATGAGCTAGTGAAGACTAGAATTTGCTGAGCATCTGGGCGATAGCCAG  
1113▶ Q G M N G S I Q A K S I Q V L P S H E L V S T R I A E H L G D S Q

NsiI (4085) ScaI (4093)

4001 AGCTTGGGTAGAATGCTGGCCGATTATCGAGCCAGAGGAGGAAGAATTCAGCCCAAAAATTCAGACCCTTTTGTCTCATTCAAAGGATGCATCAAGTACTT  
1147▶ S L G R M L A D Y R A R G G R I Q P K N S D P F A H S K D A S S T

4101 CAAGTGGCCAATCAGGAAGCAAAAATGAGGGTGTGAGAGAGAGGGCTTATTCTGAGTGTGCTGTGTGGTCAACAAAGGTGGACTGTCTGAATCCCAT  
1180▶ S S G Q S G S K N E G D E E R G L I L S D A V W S T K V D C L N P I

4201 TAATCACCAGAGACTTTGTGTGCTCTTACGAGCTCTTCTGCCAGTCCAGCAATGCTCCTAGTGCCTGTGTGAGTCTTGGATTGTAACAATGGAATTT  
1213▶ N H Q R L C V L F S S S S A Q S S N A P S A C V S P W I V T M E F

StuI (4351) NcoI (4391)

4301 TATGGAAGAATGATCTTACATTAGGAATATTTTTAGAGAGATACTGTTTCAGGCCTTCTTATCAGTGTCCAAGCATGTTCTGTGATACCCCATGGTAC  
1247▶ Y G K N D L T L G I F L E R Y C F R P S Y Q C P S M F C D T P M V

EcoRV (4475)

4401 ATCATATTCGGCGCTTTGTTTCATGGCCAAGGCTGTGTGCAGATAATCCTGAAGGAGTTGGATTCTCCAGTACCTGGATACAGCATAAATTCTTACATA  
1280▶ H H I R R F V H G Q G C V Q I I L K E L D S P V P G Y Q H T I L T Y

4501 TTCCTGGTGTAGAATCTGCAAAACAGGTAACACCAGTTGTTGCTCTTCCAATGAGTCTGGTCTATGTCAATTTGCAAAAATACCTTGAACCTTAGGTTTTAT  
1313▶ S W C R I C K Q V T P V V A L S N E S W S M S F A K Y L E L R F Y

Bst1107I (4608) BspHI (4653)

4601 GGGCACCAGTATACCTCGCAGAGCCAACGCTGAGCCCTGTGGTCACTCCATCCATCATGATTATCACCAGTATTTCTCCTATAACCAGATGGTGGCGTCTT  
1347▶ G H Q Y T R R A N A E P C G H S I H H D Y H Q Y F S Y N Q M V A S

4701 TCAGTTATTTCTCCATTCCGCTTCTTGAAGTATGTGTTCCACTCCCAAAATATTCATTAAGCGTCAGGCCCATTAAGAGTGTCCCTTCTTCCAGGATCT  
1380▶ F S Y S P I R L L E V C V P L P K I F I K R Q A P L K V S L L Q D L

4801 GAAGGACTTCTTTCAAAAAGTTTACAGGTATATGTTGCCATTGATGAAAGACTTGCATCTTTGAAAAGTATACATTTAGTAAAACAAGAGAGGAAAAA  
1413▶ K D F F Q V Y W S Q V Y V A I D E R L A S L K T D T F S K T R E E K

4901 ATGGAAGATATTTTTGCACAGAAAGAGATGGAAGAAGGTGAGTTCAAGAACTGGATTGAGAAGATGCAAGCAAGGCTCATGTCTTCTCTGTAGATACC  
1447▶ M E D I F A Q K E M E E G E F K N W I E K M Q A R L M S S S V D T

5001 CTCAGCAACTGCAGTCGGTCTTTGAGTCACTCATTGCCAAGAAACAAAGTCTCTGTGAAGTGTGCAAGCTTGGAAATAACAGGTTGCAGGACCTTTTCCA  
1480▶ P Q Q L Q S V F E S L I A K K Q S L C E V L Q A W N N R L Q D L F Q

NsiI (5186)

5101 ACAGGAAAAGGGTAGAAAGAGACCTTCAGTTCTCCAAGTCTGGAAGACTGAGACAAGGGGAAGAAAGCAAGATAAGTGGATGGATGCATCTCCACGG  
1513▶ Q E K G R K R P S V P P S P G R L R Q G E E S K I S A M D A S P R

5201 AATATTTCTCCAGACTTCAAGATGGAGAAAAAGAGGATCGCTTCTTAACAACCTTTGTCCAGCCAGAGCTCCACCAGTCTACTCATCTCCAATTTGCCTA  
1547▶ N I S P G L Q N G E K E D R F L T T L S S Q S S T S S T H L Q L P

Bsp120I (5335)

5301 CGCCACTGAAGTCATGTCTGAACAGTCAGTGGGAGGGCCCCCTGAGCTAGATACAGCCAGCAGTTCGGAAGATGTGTTTGTGAGGCACTTTGCTGGGATC  
1580▶ T P P E V M S E Q S V G G P P E L D T A S S S E D V F D G H L L G S

5401 CACAGACGCAAGTGAAGGAAAGTCAACCATGAAAGCACTTTGCAAAATTTGCTTCCAGGAAATAGCTATAATCTATTCCATTTCTTTTGTATCCA  
1613▶ T D S Q V K E K S T M K A I F A N L L P G N S Y N P I P F P D P

5501 GATAAACACTACTTAATGTATGAACATGAACGAGTGCCCATTCAGTCTGCGAGAAGGAACCCAGCTCCATCATTGCTTTTGTCTCAGTTGTAAGAAT  
1647▶ D K H Y L M Y E H E R V P I A V C E K E P S S I I A F A L S C K E

ScaI (5671)

5601 ACCGAAATGCCTTAGAGGAATTTGCTAAAGCGACTCAGTGAACAGTGCCGAAGAAGGGCTTCCAACAAATAGTACTTCAAGATAGCAGCAAAAGAGTAG  
1680▶ Y R N A L E E L S K A T Q W N S A E E G L P T N S T S D S R P K S S

5701 CAGCCCTATCAGATTACCTGAAATGAGTGGAGGACAGACAAATCGTACAACAGAAACAGAACCAACCAACCAAAAAGGCTTCTGGAATGTTGCTCTC  
1713▶ S P I R L P E M S G G Q T N R T T E T E P Q P T K K A S G M L S F

BstAPI (5863)

5801 TTCAGAGGACAGCAGGAAAAAGCCCCGATCTCTCTTCCAGAAGAGAGAGACCTTACGTGGAGCAGATAGTGGCTTACTACCAGTTGGGCGAGACGGGCA  
1747▶ F R G T A G K S P D L S S Q K R E T L R G A D S A Y Y Q V G Q T G

5901 AGGAGGGGACCGAGAATCAAGCGTTGAGCCTCAAGATGAAGTAGATGGAGGAGATACACAAAAGAAGCAACTCATAAATCTCATGTGGAACCTCAATT  
1780▶ K E G T E N Q G V E P Q D E V D G G D T Q K K Q L I N P H V E L Q F

6001 TTCAGATGCTAATGCCAAGTTTTACTGTGCGCTTACTATGCGGGAGAGTTTCATAAGATGCGTGAAGTATTCTGGACAGCAGTGAAGAAGATTTTCAAT  
1813▶ S D A N A K F Y C R L Y Y A G E F H K M R E V I L D S S E E D F I

**XmaI (6131)**

6101 CGTTCCTCTCCCACTCATCACCTGGCAGGCCGGGAGGCAAAATCAGGAGCTGCCTTCTATGCAACTGAGGATGATAGATTTATTTTGAAGCAAATGC  
1847▶ R S L S H S S P W Q A R G G K S G A A F Y A T E D D R F I L K Q M  
6201 CTCGTCTGGAAGTCCAGTCTTCTCGACTTTGCACCACATTTCAATTATATTACAAATGCTGTTCAACAAAAGAGGCCACGGCGTTGGCCAAAAT  
1880▶ P R L E V Q S F L D F A P H Y F N Y I T N A V Q Q K R P T A L A K I

**BglII (6357)**

6301 TCTTGGAGTTTACAGAATTGGTTATAAGAACTCTCAGAACAACACTGAGAAGAAGTTAGATCTCCTTGTCTATGGAAAATCTTTTCTACGGGAGAAAGATG  
1913▶ L G V Y R I G Y K N S Q N N T E K K L D L L V M E N L F Y G R K M

**BsaBI (6487)**

6401 GCACAGGTTTTGATTTGAAGGGCTCTCTTAGGAATCGGAATGAAAACTGACACTGAAAAAGAGAGTTGTGATGTGGTCTGCTAGATGAAAATCTCC  
1947▶ A Q V F D L K G S L R N R N V K T D T G K E S C D V V L L D E N L  
6501 TAAAGATGGTTCGAGACAACCTCTATATTTCTGTTCTCATTCCAAAGCTGTGCTGAGAACCTCGATCCATAGTGACTCCATTTCTTTCTAGCCACCT  
1980▶ L K M V R D N P L Y I R S H S K A V L R T S I H S D S H F L S S H L

**BstBI (6674)**

**Bsp119I (6674)**

6601 CATTATAGATTATTCTTTGCTGGTTGGCGAGATGATACTAGCAATGAGCTAGTAGTTGGAATTATAGATTATTTTCCGAACATTTACATGGGACAAAAAG  
2013▶ I I D Y S L L V G R D D T S N E L V V G I I D Y I R T F T W D K K

**BsrGI (6773)**

**BspEI (6765)**

6701 CTTGAGATGGTTGTGAAATCAACAGGAATTTTAGTGGACAAGGTAATAATGCCAACAGTGGTGTCTCCGGAGTTGTACAGGACTAGGTTTTGTGAGGCAA  
2047▶ L E M V V K S T G I L G G Q G K M P T V V S P E L Y R T R F C E A

**Acc65I (6819)**

**NheI (6865)**

6801 TGGACAAGTATTTCTAATGGTACCAGACCCTGGACAGGCTTGGGTCTGAATTGCTGAAATCAAGCTAGCTGGCCAGACATGATAAGATACATTGATGA  
2080▶ M D K Y F L M V P D H W T G L G L N C •  
6901 GTTTGGACAAACCACAAC TAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAA

**HpaI (7003)**

7001 CAAGTTAAACAACAACAATTGCATTCATTTTATGTTTCAGGTTCCAGGGGAGGTGTGGGAGTTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTATGG  
7101 AATTCTAAAATACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTT  
7201 GCCAATGTGCATTAGCTGTTTGCAGCCTCACCTCTTTTCATGGAGTTAAGATATAGTGATTTTTCCCAAGTTTGAAGTACTGCTCTTCATTTCTTTATGT

**SwaI (7352)**

7301 TTTAAATGCACTGACCTCCACATTCCCTTTTTAGTAAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAAATAATGTTTTTTATTAGGCAGA  
7401 ATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGC  
7501 TTCTAGCTTTAGTTCCTGGTGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCATTCTCAATGAGCACAAAGCAGTCAGGAG  
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  
7601 CATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGT  
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

**StuI (7777)**

7701 GTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAG  
77▶ 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  
7801 ATGATCTCCCAGTCTTGGTCTGATGGCCGCCGACATGGTCTTGTGTCTCATAGAGCATGGTATCTTCTCAGTGGCAGCTCCACAGCTCCA  
43▶ I 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  
7901 GATCTGCTGAGAGATGTTGAAGGCTTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAAC  
10▶ D Q Q S I N F T K M  
8001 AGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCACATAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGG

**SpeI (8140)**

8101 GGCGGAGTTGTTACGACATTTTGAAAAGTCCCGTTGATTTACTAGTCAAAACAAACTCCCATTTGACGTC AATGGGGTGGAGACTTGAAAATCCCCGTGAG

**SnaBI (8268)**

8201 TCAAACCGCTATCCACGCCATTGATGTAAGTCCGATCATCATGGTAATAGCGATGACTAATACGTAGATGTAAGTCCCAAGTAGGAAAGTCCC  
8301 ATAAGGTCATGTAAGTCCGATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGTACTGCCAA  
8401 GTGGGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGAAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTC AATGGGCGG

**PacI (8559)**

**SdaI (8551)**

8501 GGGTCGTTGGGCGGTGACCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCGTCAGGTTAAATTAAGAACATGTGAGCAAAAGGCCAGCAAAGGCCAG  
8601 GAACCGTAAAAAGGCCGCTTGGTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCG  
8701 ACAGGACTATAAAGATACCAGGCGTTTTCCCTGGAAGCTCCCTCGTGCCTCTCTGTTCCGACCCTGCCGCTTACCGGATACCTGTCCGCTTTCTCC

**ApaLI (8883)**

8801 CTTCGGAAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCCGTTGAGTGTGCTCGCTCAAGCTGGGCTGTGTGCACGAACCCCGT  
8901 TCAGCCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGTAGTCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATT  
9001 AGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGA

9101 AGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTTGTTGCAAGCAGCAGATTACGCG

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9201 CAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGT PacI (9299)

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**EagI (9319)**

Swal (9308) **NotI (9318)**

9301 TAATTAACATTTAAATC AGCGGCCGCAATAAAATATCTTTATTTTCATTACATCTGTGTGGTTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCA

9401 TCAAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA