



1 **Sgfl (11)** GGATCTGCGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTCGCAATTGAACCGGTGCCTA  
101 **Agel (90)** GAGAAGGTGGCGGGGTAAGCTGGGAAAGTGATGTCGTGTACTGGCTCCGCTTTTTCCGAGGGTGGGGGAGAACCGTATATAAGTGAGTAGTCGCC

201 **HindIII (246)** GTGAACGTTCTTTTTCGCAACGGGTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTCACGCGCCGCCCTACCTGAGGCC  
301 GCCATCCACGCCGGTTGAGTCGCGTTCTGCCGCTCCCGCTGTGGTGCCTCTGAAGTGCCTCGCGCTAGGTAAGTTAAAGCTCAGTGCAGACC  
401 GGGCTTTGTCCGGCGCTCCCTTGAGGCTACCTAGACTCAGCCGGCTCCACGCTTTGCCTGACCCTGCTTGCTCAACTCTACGTCTTTGTTTCTGTT

501 **NcoI (531)** TCTGTTCTGCGCCGTTACAGATCCAAGCCACCATGGGAGACCACCTGGACCTTCTCCTAGGAGTGGTGTCTATGGCCGGTCTGTGTTGGAATTCCTTC  
1 M G D H L D L L L G V V L M A G P V F G I P S  
601 CTGTCCTTTGATGGCCGAATAGCCTTTATCGTTTCTGCAACCTCACCCAGGTCCCCAGGTCCTCAACACCACTGAGAGGCTCCTGTGAGCTTCAAC  
23 C S F D G R I A F Y R F C N L T Q V P Q V L N T T E R L L L S F N  
701 TATATCAGGACAGTCACTGCTTCATCCTTCCCCTTTCTGGAACAGCTGCAGCTGCTGGAGCTCGGGAGCCAGTATACCCCTTGACTATTGACAAGGAGG  
57 Y I R T V T A S S F P F L E Q L Q L L E L G S Q Y T P L T I D K E  
801 CCTTCAGAAACCTGCCAACCTTGAATCTTGACCTGGGAAGTAGTAAGATATACTTCTGATCCAGATGCTTTTCAGGGACTGTTCCATCTGTTTGA  
90 A F R N L P N L R I L D L G S S K I Y F L H P D A F Q G L F H L F E  
901 ACTTAGACTGTATTTCTGTGGTCTCTGTATGCTGTATTGAAAGATGGTATTTTTCAGAAATTTAAAGGCTTTAACTCGCTTGGATCTATCCAAAATCAG  
123 L R L Y F C G L S D A V L K D G Y F R N L K A L T R L D L S K N Q

1001 **XhoI (1100)** ATTCGTAGCCTTTACCTTCATCCTTCATTTGGGAAGTTGAATTCCTTAAAGTCCATAGATTTTTCTCCAACCAAATATTCCTGTATGTGAACATGAGC  
157 I R S L Y L H P S F G K L N S L K S I D F S S N Q I F L V C E H E  
1101 TCGAGCCCTACAAGGGAAAACGCTCTCCTTTTTAGCTCGCAGCTAATAGCTTGATAGCAGAGTCTCAGTGGACTGGGGAAAATGTATGAACCCATT  
190 L E P L Q G K T L S F F S L A A N S L Y S R V S V D W G K C M N P F  
1201 CAGAAACATGGTGTGGAGATACTAGATGTTTCTGGAATGGCTGGACAGTGGACATCACAGGAAACTTTAGCAATGCCATCAGCAAAAGCCAGGCCCTC  
223 R N M V L E I L D V S G N G W T V D I T G N F S N A I S K S Q A F  
1301 TCTTTGATTCCTGCCACCACATCATGGGTGCCGGTTTTGGCTTCCATAACATCAAAGATCTGACCAGAACACATTTGGCTGGCCAGAAAGTTGAG  
257 S L I L A H H I M G A G F F G F H N I K D P D Q N T F A G L A R S S  
1401 TGAGACACCTGGATCTTTCACATGGGTTTGTCTTCCCTGAACTCACGAGTCTTTGAGACACTCAAGGATTTGAAGTTTCTGAACCTTGCCTACAACAA  
290 V R H L D L S H G F V F S L N S R V F E T L K D L K V L N L A Y N K  
1501 GATAAATAAGATTGCAGATGAAGCATTTCACGGACTTGACAACCTCCAAGTTCTCAATTTGTATATAACCTTCTGGGGAACTTTACAGTTTCAATTTT  
323 I N K I A D E A F Y G L D N L Q V L N L S Y N L L G E L Y S S N F  
1601 TATGGACTACCTAAGGTAGCCTACATTGATTTGCAAAAAGATCACATTGCAATAATCAAGACCAACATTCAAATTCCTGGAAAAATTACAGACCTTGG  
357 Y G L P K V A Y I D L Q K N H I A I Q D Q T F K F L E K L Q T L

1701 **EcoRV (1753)** ATCTCCGAGACAATGCTCTTACAACCATTTATTTTATCCAAGCATACCCGATATCTTCTGAGTGGCAATAAACTAGTGACTTTGCCAAAGATCAACCT  
390 D L R D N A L T T I H F I P S I P D I F L S G N K L V T L P K I N L

1801 **XbaI (1843)** TACAGCGAACCTCATCCACTTATCAGAAAACAGGCTAGAAAATCTAGATATCTCTACTTTCTCCTACGGGTACCTCATCTCCAGATTCTCATTTTAAAT  
423 T A N L I H L S E N R L E N L D I L Y F L L R V P H L Q I L I L N  
1901 CAAAATCGCTTCTCCTCCTGTAGTGGAGATCAAACCCCTTACAGAGAATCCCAGCTTAGAACAGCTTTTCTTGGAGAAAATATGTTGCAACTTGCCTGGG  
457 Q N R F S S C S G D Q T P S E N P S L E Q L F L G E N M L Q L A W  
2001 AACTGAGCTCTGTTGGGATGTTTTGAGGGACTTTCTCATCTTCAAGTCTGTATTTGAATCATACTATCTTAATCCCTCCACCAGGAGATTTTAG  
490 E T E L C W D V F E G L S H L Q V L Y L N H N Y L N S L P P G V F S  
2101 CCATCTGACTGCATTAAGGGGACTAAGCCTCAACTCCAACAGGCTGACAGTCTTTCTCACAATGATTTACCTGCTAATTTAGAGATCCTGGACATATCC  
523 H L T A L R G L S L N S N R L T V L S H N D L P A N L E I L D I S

2201 **DrallI (2246)** AGGAACCAGCTCCTAGCTCCTAATCCTGATGATTTGTATCACTTAGTGTCTTGGATATAACTCATAACAAGTTCATTTGTGAATGTGAACCTTAGCACTT  
557 R N Q L L A P N P D V F V S L S V L D I T H N K F I C E C E L S T  
2301 TTATCAATTTGGCTTAATCACACCAATGCTACTATAGTGGGCTCCTGCAGACATATATTGTGTGTACCCTGACTCGCTCTCTGGGTTTTCCCTCTTCTC  
590 F I N W L N H T N V T I A G P P A D I Y C V Y P D S L S G V S L F S

2401 **BspHI (2493)** TCTTTCCACGGAAGTTGTGATGAAGAGGAAGTCTTAAAGTCCCTAAAGTCTCCCTTTTTCATTGTATGCACTGTCACTCTGACTCTGTTCCCTCATGACC  
623 L S T E G C D E E E V L K S L K F S L F I V C T V T L T L F L M T  
2501 ATCCTCACAGTCACAAAGTTCGGGGCTTCTGTTTTATCTGTATAAGACAGCCAGAGACTGGTGTCAAGGACCATCCCAGGGCACAGAACCTGATA  
657 I L T V T K F R G F C F I C Y K T A Q R L V F K D H P Q G T E P D  
2601 TGTACAAATATGATGCCTATTTGTGCTTCAGCAGCAAAGACTTCACATGGGTGCAGAATGCTTTGCTCAAACACCTGGACACTCAATACAGTGACCAAAA  
690 M Y K Y D A Y L C F S S K D F T W V Q N A L L K H L D T Q Y S D Q N

2701 **Tth111I (2732)** CAGATTCAACCTGTGCTTTGAAGAAAAGACTTTGTCCCAGGAGAAAACCGCATTGCCAATATCCAGGATGCCATCTGGAACAGTAGAAAGATCGTTTGT  
723 R F N L C F E E R D F V P G E N R I A N I Q D A I W N S R K I V C  
2801 CTTGTGAGCAGACACTTCTTAGAGATGGCTGGTGCCTTGAAGCCTTCAGTTATGCCAGGGCAGGTGCTTATCTGACCTTAACAGTGTCTCATCATGG  
757 L V S R H F L R D G W C L E A F S Y A Q G R C L S D L N S A L I M



5801 GGACTATAAAGATACCAGGCGTTTCCCCTGGAAGCTCCCTCGTGCGCTCTCTGTTCGACCTGCCGCTTACCGGATACCTGTCCGCCTTTCTCCCTT

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**ApaI (5981)**

5901 CGGGAAGCGTGGCGCTTTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTCA

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6001 GCCCGACCGCTGCGCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGC

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6101 AGAGCGAGGTATGTAGGCGGTGTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGC

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6201 CAGTTACCTTCGGAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTGTTCGCAAGCAGCAGATTACGCGCAG

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**PacI (6401)**

6301 AAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAA

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**Swal (6409) NotI (6417)**

6401 TTAACATTTAAATCAGCGGCCGCAATAAAATATCTTTATTTTCATTACATCTGTGTGTTGGTTTTTTTGTGTAATCGTAACTAACATACGCTCTCCATCA

6501 AAACAAAACGAAACAAAACAACTAGCAAAATAGGCTGTCCCAGTCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA