



**PstI (6)**

1 CCTGCAGCCTGAGGCAAAGGGAGTGGCTACAGCCTGGCACGGTCGATTAAGCCCTGCTCTCCGGTCTGGGACACTTTCCTTTTCTCTTTTGGAGTCA  
101 CAGGTCCTCTAACATGAGAATCAAGTATTTTACGCTGATTTCTTATAAAATTGTGAGAACTCCATAGGCGATGTACCGCTACTCTACCTTAACCG

**BglII (238)**

201 TGATGTAAGACAGCAAACAAATGAAGTATACTGCAAGATCTCTTCTATTCCCTATTCAAACCTAAAATGAAGAGGGGAGGGGAGACATGGACAAGCA  
301 AGCATTCCACAGGCGCCCTGCCAACGCTGTCACTCAAACAGGACCCAATCACAGACTTTTTAGCCAAGCCTTATCCCGCTCTCTTGGAAACTTTC

**BsrGI (427)**

401 TGGTCCGCCATCTGTAGGAAGGATTTGTACACTTTAACTCCCTCCCTGGTCTGAGTCCCACACTCTACCACCAGCACCTTCAGGAGCTGACCCTT  
501 AACAGCTTACCACAGGGACCCGAAAGTTGCGTCGCTCCGCAACAGTGTCAATAGCAGCACCAGCACTTCCACACCCTCCCTCAGGAATCCGTA  
601 CTCTTAGCGAACCCAGAACTCTGAGAGTCTGACAAAGGGCGGAACCCACAACCTCCGATTACTCAAGGGAGGCGGGGAAGCTCCACCAGACGCGA  
701 AACTGCTGGAAGATTCTGGCCCAAGGCCTCTCCGGCTGCTGATTGGCCAGCGGAGAGTGGCGGGGCGGTGAAGACTCCTTAAAGGCGCAGGGC  
801 GCGGAGCAGGGCACCAGACGCTGACAGCTACTCAGAATCAAATCTGGTTCATCCAGAGACAAGCGAAGACAAGAGAAGCAGAGCGAGCGCGCTTCC  
901 GATCCTCGGCCAGGACCAGCCTTCCCAGAGCATCCACGCCGCGGAGCGCAACTTCCCAGGAGCATCCCTGCCGCGGAGCGCAACTTCCCAGGAGCAT

**NcoI (1042)**

1001 CCACGCCGCGGAGCGCAGCCTTCCAGAAGCAGAGCGCGGCCCATGGGGGTTCTCATCATCATCATCATGGTATGGCTAGCATGACTGGTGGACAG  
1101 CAAATGGGTCGGGATCTGTACGACGATGACGATAAGGTACCTAAGGATCAGCTTGGAGTTGATCCCGTCTGTTTACAACGTCGTGACTGGGAAAACCTG  
20 Q M G R D L Y D D D D K V P K D Q L G V D P V V L Q R R D W E N P  
1201 GCGTTACCCAACCTAATCGCCTTGACGACATCCCCCTTTCGCGACTGGCGTAATAGCGAAGAGGCCCGCACCAGTCCGCCCTCCCAACAGTTGCGCAG  
53 G V T Q L N R L A A H P P F A S W R N S E E A R T D R P S Q Q L R S  
1301 CCTGAATGGCGAATGGCGCTTTCCTGTTCCCGCACCAGAAGCGGTGCCGAAAGCTGGCTGGAGTGGCATCTTCTGAGGCCGATACTGCTGCTGCTC  
86 L N G E W R F A W F P A P E A V P E S W L E C D L P E A D T V V V  
1401 CCCTCAAATGGCAGATGACGCGTACGATGCGCCATCTACACCAACCTAACCTATCCATTACGGTCAATCCGCGTGTGTTCCACGGAGAATCCGA  
120 P S N W Q M H G Y D A P I Y L T N V T Y P I T V N P P F V P T E N P  
1501 CGGGTTGTTACTCGCTCACATTTAATGTTGATGAAAGCTGGCTACAGGAAGGCCAGACGCGAATTATTTTTGATGGCGTAACTCGGCGTTTCTCTGTG  
153 T G C Y S L T F N V D E S W L Q E G Q T R I I F D G V N S A F H L W  
1601 GTGCAACGGGCGTGGTTCGGTTACGGCCAGGACAGTCTGTTGCCGTCTGAATTTGACCTGAGCGCATTTTTACGCGCCGGAGAAAACCCGCTCGCGGTG  
186 C N G R W V G Y G Q D S R L L P S E F D L S A F L R A G E N R L A V  
1701 ATGGTCTGCGTTGGAGTACGGCAGTTATCTGGAAGATCAGGATATGTGGCGGATGAGCGGCATTTTCCGTGACGCTCTGTTGCTGCATAAACCGACTA  
220 M V L R W S D G S Y L E D Q D M W R M S G I F R D V S L L H K P T  
1801 CACAAATCAGCGATTTCCATGTTGCCACTCGCTTAAATGATGATTTACGCGCGCTGACTGGAGGCTGAAGTTGATGTCGCGGAGTTGCGTGACTA  
253 T Q I S D F H V A T R F N D D F S R A V L E A E V Q M C G E L R D Y  
1901 CCTACGGGTAACAGTTCCTTATGGCAGGGTGAACCGCAGGTGCGCAGCGTACCGCCGCTTTCGCGGGTAAATTATCGATGAGCGTGGTGGTTATGCC  
286 L R V T V S L W Q G E T Q V A S G T A P F G G E I I D E R G G Y A  
2001 GATCGGTCACACTACGCTGAACGTCGAAAACCCGAACTGTGGAGCGCGAAATCCCGAATCTCTATCGTGGGTGGTTGAAGTGCACACCGCGCAGG  
320 D R V T L R L N V E N P K L W S A E I P N L Y R A V V E L H T A D  
2101 GCACGCTGATTGAAGCAGAAGCCTGCGATGTCGGTTTCGCGAGGTGGGATGAAAATGGTCTGCTGCTGCTGAACGGCAAGCGTGTGCTGATTGAGG  
353 G T L I E A E A C D V G F R E V R I E N G L L L L K N G K P L L I R G  
2201 CGTTAACCGTCACGAGCATCATCTCTGCATGGTCAAGTCAAGTCAAGTCAAGTCAAGTCAAGTCAAGTCAAGTCAAGTCAAGTCAAGTCAAGTCAAGT  
386 V N R H E H H P L H G Q V M D E Q T M V Q D I L L M K Q N N F N A  
2301 GTGCGCTGTTGCGATTATCCGAACCATCCGCTGTGGTACAGCTGTGCGACCGCTACGGCCTGATGTTGGTGGATGAAGCCAATATTGAAACCCACGGCA  
420 V R C S H Y P N H P L W Y T L C D R Y G L L Y V V D E A G A N I E T H G  
2401 TGGTCCCAATCGTCTGACCGATCCGCGCTGGCTACCGCGTACCGCGTACCGCGTACCGCGTACCGCGTACCGCGTACCGCGTACCGCGTACCGCGT  
453 M V P M N R L T D D P R W L P A M S E R V T R M V Q R D R N H P S V  
2501 GATCATCTGGTCTGCGTGGGAATGAATCAGGCCACGGCGTAAATCAGACGCGCTGTATCGTGGATCAAATCTGTCGATCCTTCCCGCCCGTGCAGTAT  
486 I I W S L G N E S G H G A N H D A L Y R W I K S V D P S R P V Q Y  
2601 GAAGCGCGGAGCCGACACCCAGCCACCGATATTTTCCCGGATGACGCGCGTGGATGAAGACCAGCCCTTCCCGGCTGTGCCAAATGGTCCCA  
520 E G G G A D T T A T D I I C P M Y A R V D E D Q P F P A V P K W S  
2701 TCAAAAAATGGCTTTCGCTACCTGGAGAGACGCGCCGCTGATCCTTTCGAAATACGCCACGCGATGGGTAACAGTCTTGGCGTTTCGCTAAATACTG  
553 I K K W L S L P G E T R P L I L C E Y A H A M G N S L G G F A K Y W  
2801 GCAGGCGTTTCGTCAGTATCCCGTTTACAGGGCGGCTTCTGCTGGGACTGGGTGGATCAGTCTGCTGATTAATATGATGAAAACGGCAACCCGTTGGTGG  
586 Q A F R Q Y P R L Q G G F V W D D W V D Q S L I K Y D E N G N P W S  
2901 GCTTACGGCGGTGATTTTGGCGATACGCCAACGATCGCCAGTCTGTATGAACGGTCTGGTCTTTCGCGCAGCCGACCGCATCCAGCGCTGACGGAAG  
620 A Y G G D F G D T P N D R Q F C M N G L V F A D R T P H P A L T E  
3001 CAAAACACCAGCAGCAGTTTTTCCAGTTCCTGTTTATCCGGCAAACCATCGAAGTACCAGCGAATACCTGTTCCGTATAGCGATAACGAGCTCCTGCA  
653 A K H Q Q Q F F Q F R L S G Q T I E V T S E Y L F R H S D N E L L H  
3101 CTGGATGGTGGCGTGGATGGTAAGCCGCTGGCAAGCGGTGAAGTGCCTCTGGATGTCGCTCCACAAGGTAACAGTTGATTGAAGTGCCTGAACTACCG  
686 W M V L I E A D E A C P L A S G E V R I D E N G P L Q G K N G I E L P L I R P  
3201 CAGCCGAGAGCGCCGGCAACTCTGGCTCACAGTACGCTAGTGAACCGAAGCGACCGCATGGTCAAGACCGGGCACATCAGCGCTGGCAGCAGT  
720 Q P E S A G Q L W L T V R V V Q P N A T A W S E A G H I S A W Q Q  
3301 GGGTCTGGCGAAAACCTCAGTGTGACGCTCCCGCCGCTCCACGCCATCCCGCATCTGACCACCAGCGAAATGGATTTTGCATCGAGCTGGGTAA  
753 W R L A E N L S V T L P A A S H A I P H L T T S E M D F C I E L G N  
3401 TAAGCGTTGGCAATTTAACCGCAGTCAAGCTTCTTTCACAGATGTGGATTTGGCGATAAAAAACAACCTGCTGACGCGCTGCGCGATCAGTTACCCGT  
786 K R W Q F N R Q S G F L S Q M W I G D K K Q L L T P L R D Q F T R  
3501 GCACCGCTGGATAACGACATTGGCGTAAGTGAAGCGACCCGATGACCTAACCGCTGGTGAACGCTGGAAGCGGGGGCCATTACCAGGCCGAAG  
820 A P L D N D I G V S E A T R I D P N A W V E R W K A A G H Y Q A E  
3601 CAGCGTTGTTGAGTGCACGGCAGATACACTTGTGATGCGGTGCTGATTACGACCGCTCACGCTGGCAGCATCAGGGGAAAACCTTATTTATCAGCCG  
853 A A L L Q C T A D T L A D A V L I T T A H A W Q H Q G K T L F I S R

3701 GAAAACCTACCGATTGATGGTAGTGGTCAAATGGCGATTACCGTTGATGTTGAAGTGGCGAGCGATACACCGCATCCGGCGGGATTGGCCTGAACTGC  
886▶ K T Y R I D G S G Q M A I T V D V E V A S D T P H P A R I G L N C  
3801 CAGCTGGCGCAGGTAGCAGAGCGGGTAACTGGCTCGGATTAGGGCCGCAAGAAACTATCCCGACCGCCTTACTGCCGCCTGTTTTGACCGCTGGGATC  
920▶ Q L A Q V A E R V N W L G L G P Q E N Y P D R L T A A C F D R W D  
3901 TGCCATTGTCAGACATGTATACCCCGTACGTCTTCCCGAGCGAAAACGGTCTGCGCTGCGGGACGCGGAATTGAATTATGGCCACACCAAGTGGCGCGG  
953▶ L P L S D M Y T P Y V F P S E N G L R C G T R E L N Y G P H Q W R G  
4001 CGACTTCCAGTTCAACATCAGCCGCTACAGTCAACAGCAACTGATGGAAACAGCCATCGCCATCTGCTGCACGCGGAAGAAGGCACATGGCTGAATATC  
986▶ D F Q F N I S R Y S Q Q Q L M E T S H R H L L H A E E G T W L N I  
4101 GACGGTTTCCATATGGGGATTGGTGGCGAGCACTCCTGGAGCCCGTCAGTATCGGCGGAATTACAGCTGAGCGCCGGTCCGCTACCATTACCAAGTTGGTCT  
1020▶ D G F H M G I G G D D S W S P S V S A E L Q L S A G R Y H Y Q L V

**EcoRI (4227)**

4201 GGTGTCAAAAATAATAATCTAGTCGAGAATTCGCTAGCTCGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAAAAAAA  
1053▶ W C Q K •

4301 TGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAAACCATTATAAGCTGCAATAAACAAAGTTAA  
4401 CAACAACAATTGCATTCATTTTATGTTTCAGGTTCAAGGGGAGGTGTGGGAGGTTTTTTAAAGCAAGTAAAACTCTACAAATGTGGTAGATCCATTAA

*PacI (4508)*

4501 ATGTTAATTAAGTACGCATGACCAAAATCCCTTAACGTGAGTTTTTCGTTCCACTGAGCGTCAGACCCGTAGAAAAGATCAAAGGATCTTCTTGAGATCC

4601 TTTTTTCTGCGCGTAATCTGCTGCTTGAACAACAAAAAACACCGCTACCAGCGGTGGTTTGTTCGCCGATCAAGAGCTACCAACTCTTTTTCCGAAG

4701 GTAACGGCTTCAGCAGAGCGCAGATACCAATACTGTTCTTCTAGTGTAGCCGTAGTTAGGCCACCACTTCAAGAACTCTGTAGCACCGCCTACATACC

4801 TCGCTCTGCTAATCTGTTACCAGTGGCTGCTGCCAGTGGCGATAAGTCGTCTTACCGGTTGGACTCAAGACGATAGTTACCGGATAAGGCGCAGCG

4901 GTCGGGCTGAACGGGGGTTCTGTGCACACAGCCAGCTTGGAGCGAACGACCTACCCGAACTGAGATACCTACAGCGTGAGCTATGAGAAAAGCGCCACG

5001 CTTCCCGAAGGGAGAAAAGCGGACAGGTATCCGGTAAGCGGCAGGGTTCGGAACAGGAGAGCGCACGAGGGAGCTTCCAGGGGAAACGCCTGGTATCTTT

5101 ATAGTCCTGTCGGGTTTTGCCACCTCTGACTTGAGCGTCGATTTTTGTGATGCTCGTCAGGGGGCGGAGCCTATGAAAAACGCCAGCAACGCGGCCTT

*PacI (5248)*

5201 TTTACGGTTCCTGGCCTTTTGTGGCCTTTTGTCCACATGTTCTTAATTAATTTTTCAAAGTAGTTGACAATTAATCATCGGCATAGTATATCGGCAT

5301 AGTATAATACGACTCACTATAGGAGGGCCATCATGGCCAAGTTGACCAGTGTGTCCAGTGTCTCACAGCCAGGGATGTGGCTGGAGCTGTTGAGTTCTG

5401 GACTGACAGGTTGGGGTCTCCAGAGATTTTGTGGAGGATGACTTTGACAGGTGTGGTCAGAGATGATGTCACCCCTGTTTATCTCAGCAGTCCAGGACCAG  
23▶ T D R L G F S R D F V E D D F A G V V R D D V T L F I S A V Q D Q

5501 GTGGTGCCTGACAACACCCTGGCTTGGGTGTGGGTGAGAGGACTGGATGAGCTGTATGCTGAGTGGAGTGGTCTCCACCAACTTCAGGGATGCCA  
57▶ V V P D N T L A W V W V R G L D E L Y A E W S E V V S T N F R D A

5601 GTGGCCCTGCCATGACAGAGATTGGAGAGCAGCCCTGGGGAGAGAGTTTGCCTGAGAGACCCAGCAGGCAACTGTGTGCACCTTTGTGGCAGAGGAGCA  
90▶ S G P A M T E I G E Q P W G R E F A L R D P A G N C V H F V A E E Q

*PacI (5757)*

5701 GGACTGAGGATAAGAATTGTAACAAAAACCCCGCCCGGGGTTTTTTGTTAATTAA

123▶ D •