



1 GGACCTGCAGGGCCTGAAATAACCTCTGAAAGAGGAACTTGGTTAGGTACCTTCTGAGCGGAAAGAACCAGCTGTGGAATGTGTGTCAGTTAGGGTGTG
101 GAAAGTCCCAGGCTCCCAGCAGGCAGAAGTATGCAAAGCATGCATCTCAATTAGTCAGCAACCAGGTGTGAAAGTCCCAGGCTCCCAGCAGGCAG
201 AAGTATGCAAAGCATGCATCTCAATTAGTCAGCAACCATAGTCCCACTAGTCTCCGGTGGCCGTGAGTGGGAGAGCGCACATCGCCACAGTCCCCGA
301 GAAGTTGGGGGAGGGGTGCGCAATTGAACGGGTGCCTAGAGAAGGTGGCGGGGTAACCTGGGAAAGTGTGCTGTACTGGCTCCGCTTTTTCCC
401 GAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCCGTGAACGTTCTTTTCGCAACGGGTTTCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTC
501 GCATCTCTCTTACGCGCCCGCCCTACCTGAGGCCGCCATCCACGCCGGTTGAGTCGCGTTCTGCCGCTCCCGCTGTGGTGCCTCCTGAACTGC
601 GTCCGCGCTTAGGTAAGTTTAAAGCTCAGGTCGAGACCGGGCCTTTGTCCGGCGCTCCCTTGAGGCTACCTAGACTCAGCCGGCTCCTCACGCTTTGC

NcoI (799)
AgeI (791)

701 CTGACCCTGCTTGCTCAACTCTACGTCTTTGTTTCTGTTTCTGCGCGAGTTACAGATCCAAGCTGTGACCGGCGCTACCTGAGATCACCGGTCAC

XhoI (852)

801 CATGGAGATCAAGGTGCTGTTTGCCTCATCTGTATTGCTGTTGCTGAGGCACTCGAGCGGGTCCAACCACCAGAAAGCATTGTGCGGTTCCAAATATC
1 M E I K V L F A L I C I A V A E A L E R V Q P T E S I V R F P N I
901 ACCAATCTGTGTCCTTTGGCGAAGTGTCAATGCTACAAGTGTGTTCTGTGTACGCATGGAATAGGAAACGCATCTCCAATTGTGTCGCTGATTACT
15 T N L C P F G E V F N A T R F A S V Y A W N R K R I S N C V A D Y
1001 CCGTGTGTACAATTCGCGCTCTTTCTCAACCTCAAGTGTATGGCGTTTCCCTACCAAATTAACGACCTGTGCTTCACTAATGTGTATGCCGACTC
48 S V L Y N S A S F S T F K C Y G V S P T K L N D L C F T N V Y A D S
1101 TTTTGTGATACGAGGCGATGAAGTGAGACAGATTGCACCAGGGCAGACCGGCAAAATGCCGACTACAACATAAGCTTCCAGATGACTTTACCGGATGT
81 F V I R G D E V R Q I A P G Q T G K I A D Y N Y K L P D D F T G C
1201 GTTATTGCATGGAACCAACAATCTGGATTCCAAGTGGGTGGCAACTATAACTACCTGTATAGACTGTTCCAGGAAATCCAACCTGAAACCATTCGAGC
115 V I A W N S N N L D S K V G G N Y N Y L Y R L F R K S N L K P F E
1301 GAGATATAAGCACAGAAATCTACCAGGCTGGAAGTACGCCCTGCAACGGCGTGAAGGGTTCAACTGCTACTTCCCATTGCAGAGTTACGGATTCCAGCC
148 R D I S T E I Y Q A G S T P C N G V E G F N C Y F P L Q S Y G F Q P
1401 TACAAACGGGGTGGGTTACCAACCTATCGTGTCTAGTCTGAGTTTGTGAGCTCCTCATGCCCCAGCCACAGTCTGTGGCCCCAAGAAAAGCACCAAT
181 T N G V G Y Q P Y R V V V L S F E L L H A P A T V C G P K K S T N

BamHI (1527)

NheI (1558)

1501 CTGGTGAAGAACAATGCGTGAACCTTGGATCCGGCCATCATCATCCATCATCTAAAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGG
215 L V K N K C V N F G S G H H H H H H •
1601 CAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAACAAGTTA

1701 ACAACAACAATTGCATTCATTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTATGGAATTCTA
1801 AAATACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATG
1901 TGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGTATTTTCCCAAGGTTTGAAGTACTCTTTCATTTCTTTATGTTTAAAT
2001 GCACTGACCTCCACATTCCTTTTATGAAAATATTCAGAAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGA
2101 TGCTCAAGGCCCTCATAATATCCCCAGTTTAGTAGTTGACTTAGGGAACAAGGAACCTTAATAGAAATGGACAGCAAGAAAGCGAGCTTCTAGC

2201 TTTAGTTCCTGGTGTACTTGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCATTATCTCAATGAGCACAAGCAGTCAGGAGCATAGTC
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 Y D
2301 AGAGATGAGCTCTGCACATGCCACAGGGGCTGACCACCCTGATGGATCTGTCCACCTCATCAGATAGGGGTGCTGACAGCCACAATGGTGTCAAAG
108 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 D F
2401 TCCTTCTGCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCCAGCAGACAGTACCCTGCCAATGTAGGCTCAATGTGGACAGCAGAGATGATCT
74 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 I I E
2501 CCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGTGTTGTTGCTCATAGAGCATTGGTGTCTTCTCAGTGGCGACTCCACCAGCTCCAGATCCTG
41 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
2601 CTGAGAGATGTTGAAGTCTTCTCATGGTGGCCCTCTATAGTGAAGTCTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGG
8 Q S I N F T K M
2701 ATGGCGTCTCCAGCTTATCTGACGGTCACTAAACGAGCTCTGCTTATATAGACTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAG

2801 TTGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAACAACTCCCATTGACGTCAATGGGGTGGAGACTTGGAAATCCCCGTGAGTCAAAC
2901 GCTATCCACGCCATTGATGTACTGCCAAAACGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCCATAGGT
3001 CATGTAAGTGGCATAATGCCAGCGGGCCATTTACCGTCAATGACGTCAATAGGGGGCTACTTGGCATATGATACTTGTACTGCAAGTGGGCA
3101 GTTACCGTAAATACTCCACCCATTGACGTCAATGAAAGTCCCTATTGGCGTACTATGGAAACATACGTCAATATTGACGTCAATGGGGGGGGTCTG

3201 TGGGCGGTCAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCTGCAGGTTAAITAAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGT
3301 AAAAAAGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAAACCCGACAGGAC
3401 TATAAAGATACCAGGCGTTTTCCCTGGAAGCTCCCTCGTGCCTCTCTGTCCGACCTGCCGTTACCGGATACCTGTCCGCCTTCTCCCTTCGGG
3501 AAGCGTGGCGCTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTAGCCC
3601 GACCGTGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAG
3701 CGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGT
3801 TACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAACACCGCTGGTAGCGGTGGTTTTTTTGTGTTGCAAGCAGCAGATTACGGCAGAAAA
3901 AAAGGATCTCAAGAAGATCCTTTGATCTTTTACGGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAA
4001 CATTTAAATCAGCGGCCCAATAAAATATCTTTATTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAC
4101 AAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCAGTCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA