



EcoRI (23)

XbaI (19)

NotI (2) Sall (9) EcoRV (17)

SpeI (45)

1 GCGGCCGCGTCGACGATATCTAGAATTCGGATCCTGCAGGGCCACTAGTTCTCAGGCTCACATTCACCACCCACCTCTGAGCCCAGCCCTCCCTAGC
 101 ATCACCACCTTCCATCCCATTCTCAGCCAAGAGCCAGGAATCTGATTCCAGATCCCACGCTTCCTGCTCCCTCAGGTGAGCCCCAGACCCCAAGCA
 201 CCCCCTGGCCCTGAAGGAGCAGGTGATGGTGTCTTCGCCACAGCTGTGGGAGCAGCGGGTGGGCAGGATGGAGGGTGGTGGGGTGGGTG
 301 GAGCCAGGGCCACTTCTTTCCCTTGGGGCCCTGCTTCCAGTCTTCCCCAGCCTCGGGAGGTGGTGGAGTGACCTGGCCCCAGTGCTGCTCT
 401 TATCAGCCGAGCCGgtaagagggtagacttggtggggtaggggctcagtgggcctgggaatgtgcctgtggcttgaagagactctgacaggttatgat
 501 ggaagagattgggagccattgggctgcacagggcagggagggcagggggctggcactgctggaatctaagctgctgaggctggagggagcctca
 601 ggatggggctgatggggagctgccagcatctgttctctgtcatttctgataacagtaaaagccagcatggaaaaaaccgttaaacccaggttggcc
 701 tggcgttggcagggagtgggcagaggggagccggccaggtcctcggcaactcccgctgttctgcttctcggctgccacactgagTCCACG

NcoI (825)

801 TCTTGCTCCTGCCTGTTTGCCTGACcATGGTTCTGGGCCCCTGCATGCTGCTGCTGCTGCTGCTGCTGGCCCTGAGGCTACAGCTCTCCCTGGGCATCAT
 901 CCCAGTTGAGGAGGAGAACC CGACTTCTGAAACCGCAGGACGCGAGGCCCTGGGTGCCGCAAGAAGCTGCAGCCTGCACAGACAGCCGCAAGAAC
 25▶ P V E E E N P D F W N R E A A E A L G A A K K L Q P A Q T A A K N
 1001 CTCATCATCTTCTGGCGATGGGATGGGGTGTCTACGGTACAGCTGCCAGGATCCTAAAAGGGCAGAAGAAGGACAACTGGGGCTGAGATACCC
 59▶ L I I F L G D G M G V S T V T A A R I L K G Q K K D K L G P E I P
 1101 TGGCTATGGACCGCTCCCATATGTGGCTCTGTCCAAGACATACAATGTAGACAAACATGTGCCAGACAGTGGAGCCACAGCCACGGCCTACCTGTGCGG
 92▶ L A M D R F P Y V A L S K T Y N V D K H V P D S G A T A T A Y L C G
 1201 GGTCAAGGGCAACTTCCAGACCATTGGCTTGTGAGTGCAGCCGCCGCTTAACACAGTGAACACGACACGCGCAACAGGTCATCTCCGTGATGAATCGG
 125▶ V K G N F Q T I G L S A A A R F N Q C N T T R G N E V I S V M N R
 1301 GCCAAGAAAGCAGGGAAGTCAGTGGGAGTGGTAACCACCACACAGTGCAGCACGCTCGCCAGCCGCGACCTACGCCACACGGTGAACCGCAACTGGT
 159▶ A K K A G K S V G V V T T T R V Q H A S P A G T Y A H T V N R N W
 1401 ACTCGGACGCCGACTGCCTCGCCCGCCAGGAGGGTCCAGGACATCGCTACGACGATCTCCAACATGGACATTGATGTGATCTGGGTGG
 192▶ Y S D A D V P A S A R Q E G C Q D I A T Q L I S N M D I D V I L G G
 1501 AGGCCGAAAGTACATGTTTCGCATGGGAACCCAGACCCTGAGTACCAGATGACTACAGCCAAGGTGGGACCAGGCTGGACGGGAAGAATCTGGTGCAG
 225▶ G R K Y M F R M G T P D P E Y P D D Y S Q G G T R L D G K N L V Q
 1601 GAATGGCTGGCGAAGCGCCAGGGTGCCCGGTATGTGTGAACCGCACTGAGCTCATGCAGGCTTCCCTGGACCGTCTGTGACCCATCTCATGGGTCTCT
 259▶ E W L A K R Q G A R Y V W N R T E L M Q A S L D P S V T H L M G L
 1701 TTGAGCCTGGAGACATGAAATACGAGATCCACCAGACTCCACTGGACCCCTCCCTGATGGAGATGACAGAGGCTGCCCTGCGCTGCTGAGCAGGAA
 292▶ F E A R P D V T E S E S G S P E Y R Q Q S A V P L D E E T H A G E
 1801 CCCCPCGGCTTCTCTCTTCTGTTGGAGGGTGGTGCATCGACACCGTTCATCACGAAAGCAGGGCTTACCGGCACTGACTGAGACGATCATGTTGCAC
 325▶ P R G F F L F V E G G R I D H G H H E S R A Y R A L T E T I M F D
 1901 GACGCCATTGAGAGGGCGGGCCAGCTCACCAGCGAGGAGGACAGCTGAGCCTCGTCACTGCCGACCACTCCACGCTTCTCCTTCGGAGGCTACCCCC
 359▶ D A I E R A G Q L T S E E D T L S L V T A D H S H V F S F G G Y P
 2001 TGCAGGGAGCTCCATCTTCGGCTGGCCCTGGCAAGGCCCGGGACAGGAAGGCCTACACGGTCTCCTATACGAAACGGTCCAGGCTATGTGCTCAA
 392▶ L R G S S I F G L A P G K A R D R K A Y T V L L Y G N G P G Y V L K
 2101 GGACGGCCCGCCGGATGTTACCGAGCGAGAGCGGGAGCCCGAGTATCGGCAGCAGTCAAGTGCACGCTGGCCCTGGACGAAAGACCCACGACGGCGAG
 425▶ D G A R P D V T E S E S G S P E Y R Q Q S A V P L D E E T H A G E
 2201 GACGTGGCGGTGTTTCGCGCGGGCCCGCAGGCGCACCTGGTTCACGGCTGACAGGAGCAGACCTTCATAGCGACGTCATGGCCTTCGCCCTGCTGG
 459▶ D V A V F A R G P Q A H L V H G V Q E Q T F I A H V M A F A A C L

NheI (2391)

2301 AGCCCTACACCGCTGCGACCTGGCGCCCCCGCCGACACCGACCGCGCACCCGGGGCGGTCCCGGTCCAAGCGTCTGGATTGAAGCTAGCTGGC
 492▶ E P Y T A C D L A P P A G T T D A A H P G R S R S K R L D • -
 2401 CAGACATGATAAGATACATTGATGAGTTGGACAAACCACAAC TAGAATGCAGTGAATAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATT
 2501 TGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAACATTGCATTCAATTTATGTTTCAGGTTCAAGGGGAGGTGTGGGAGTTTTTTAAAGCAAG
 2601 TAAAACCTCTACAAATGTGGTATGGAATTAATTCTAAAATACAGCATAGCAAACTTTAACCTCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGA
 2701 TGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTTAAAGATATAGTGTATTTTCCCAAG
 2801 GTTTGAAC TAGCTCTTCAATTTCTTTATGTTTTAAATGCACTGACCTCCACATTTCCCTTTTTAGTAAAATATTCAGAAATAATTTAAATACATCATTGCA
 2901 ATGAAAATAAATGTTTTTTATTAGGCAGAAATCCAGATGCTCAAGGCCCTTCAATAATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTT
 3001 AATAGAAATTTGGACAGCAAGAAAGCGAGCTTCTAGCTTATCTCAGTCTGCTCTGCCACAAAGTGCACGAGTTGCCGGCCGGTGCAGCGAGGGC
 125▶ • D Q E E A V F H V C N G A P D R L A
 3101 AACTCCCGCCCCACGGTGTCTCGCGATCTCGGTCTATGGCCGGCCGGAGGCTCCCGAAGTTTCGTGGACACGACTCCGACCACTCGGCTCGGCTACAGCT
 105▶ F E R G W P Q E G I E T M A P G S A D R F N T S V V E S W E A Y L E
 3201 CGTCCAGGCCGCGCACCCACACCAGGCCAGGGTGTGTTCCGGCACCACTGGTCTGGACCGGCTGATGAACAGGGTCACTGCTGCCGGACCACT
 72▶ D L G R V W V W A L T N D P V V Q D Q V A S I F L T V D D R V V G

3301 GCGAAGTCGTCCTCCACGAAGTCCCGGAGAACCCGAGCCGGTCGGTCCAGAAGTCGACCGCTCCGGCGACGTCGCGCGGGTGAGCACCGAACGGCA
39 A F D D E V F D R S F G L R D T W F E V A G A V D R A T L V P V A
3401 CTGGTCAACTTGGCCATGATGGCTCCTCctgtcaggagagaaagagaagaaggtagtacaattgCTATAGTGAGTTGATTATACTATGCAGATATAC
5 S T L K A M
3501 TATGCCAATGATTAATTGTCAAACTAGGGCTGCAGGTTAATTAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGGCCGCTTGC
3601 TGGCGTTTTTCCATAGGCTCCGCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGC
3701 GTTCCCCCTGGAAGTCCCTCGTGCCTCTCCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGTTTCT
3801 CATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTACGCCGACCGCTGCGCCTAT
3901 CCGGTAACATATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGCGG
4001 TGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGA
4101 GTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAG
4201 ATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCA