



EcoRI (23)

NotI (2) **XbaI (19)** **SdaI (38)** **SpeI (45)**

1 CCGCGCCGCTGCAGCATATCTAGAAATTCGGATCCTGCAGGGCCACTAGTCCCTGGAGAGCATGGGAGACCCGGGACCCCTGCTGGGTTTCTCTGTAC

101 AAAGGAAAATAATCCCTTGGTGTGACAGACCAAGGACAGAACACAGAGGTCAGACTGGGAAGACAGTTGCTCTCCAGGGATGGGGTCCA

201 TCCACCTTGCCGAAAAGATTTGTCTGAGGAAGTAAAAAGAGGGAAAAAGAGGAGGACAAAAGAGGCAGAAATGAGAGGGGAGGGGACAGAGGACA

ScaI (344) **AvrII (353)**

301 CCTGAATAAGACCACCCATGACCCACGTGATGCTGAGAAGTACTCTGCCCTAGGAAGAGACTCAGGCAGAGGGAGGAAGACAGCAGACCAGACA

NcoI (477)

401 GTCACAGCAGCCTTGACAAAACGTTCTGGAAGTCAAGCTCTTCCACAGAGGAGGACAGAGCAGACAGCAGAGACCATGGAAATCAAGGTGCTGTTTG
▶ M E I K V L F

BglII (592)

501 CCCTCATCTGTATTGCTGTTGCTGAGGCAAAACCCACTGAAATCAATGAAGACCTCAATATAGCTGCTGTGGCCTCCAACCTTGGCCACCACAGATCTTGA
8▶ A L I C I A V A E A K P T E I N E D L N I A A V A S N F A T T D L E

601 GACTGACCTGTTACCAACTGGGAGACCATGAATGTGATTAGCACTGACACAGAGCAGGTGAACACAGATGCTGACAGGGGCAAGCTGCCTGGCAAAAA
41▶ T D L F T N W E T M N V I S T D T E Q V N T D A D R G K L P G K K

701 CTCCTCCAGATGCTGCTGAGGAGCTGGAGGCAATGCCAGAAGGGCTGTTGCACAAGAGGCTGCTCATTGCTCTCCACATTAAGTGCACCCCTA
75▶ L P P D V L R E L E A N A R R A G C T R G C L I C L S H I K C T P

801 AGATGAAGAAATTTATCCCTGGCAGGTGCCACACTTATGAAGGTGAAAGGAGTCTGCTCAGGGAGGGATTGGAGAGGCAATTGTTGATATCCAGAGAT
108▶ K M K K F I P G R C H T Y E G E K E S A Q G G I G E A I V D I P E I

901 TCCTGGCTTCAAGGATAAGGAGCCACTGGACCAAGTTTATTGCTCAAGTGGACCTCTGTGCTGATTGCACCACTGGCTGTCTGAAGGGCCTTGCACATGTC
141▶ P G F K D K E P L D Q F I A Q V D L C A D C T T G C L K G L A N V

1001 CAGTCTCTGACCTCCTGAAGAGTGGCTTCCCAGAGGTGTACCACTTTTCCAGCAAGATTGAGGTAGGGTGGACAAAATCAAGGGTCTGGCTGGG
175▶ Q C S D L L K K W L P Q R C T T F A S K I Q G R V D K I K G L A G

NheI (1111)

1101 ACAGATGATAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTGGACAACCAACAATAAGTGCAGTGAAAAAATGCTTTATTTGTGAAATT
208▶ D R •

1201 TGTGATGCTATTGCTTTATTTGTAACCATTAAGCTGCAATAAACAAGTTAACAACAACAATTGCATTCAATTTATGTTTCAGTTTCAGGGGAGGTGT

1301 GGGAGTTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTAATTCTAAAAACAGCATAGCAAAACTTTAACCTCCAATCAAGCTCTAC

1401 TTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTCTTTTCATGGAGTTAAG
1501 ATATAGTGTATTTTCCCAAGTTTGAAGTACTCTTCATTTCTTTATGTTTAAATGCATGACCTCCACATTCCTTTTATAGTAAATATTGAGAAAT
1601 AATTTAAATACATCATTGCAATGAAATAAATGTTTTTATTAGGCAGAAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACT
1701 TAGGGAACAAGGAACTTTAATAGAATTGGACAGCAAGAAAGCAGCTTCTAGCTTATCCTCAGTCTGCTCCTGCCACAAGTGCACGCAGTTGC
125▶ • D Q E E A V F H V C N G

1801 CGGCCGGTCCGCGAGGGCAACTCCGCCCCACGGCTGCTCGCGATCTCGTGCATGGCCGGCCGGAGGCGTCCCGAAGTTCGTGGACACGACCTC
112▶ A P D R L A 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

1901 CGACCACTCGGCTCAGCTGCTCGAGCCGCGCACCCACCCAGCCAGGGTGTGTCGGCACCACCTGGTCTGGACCGGCTGATGAACAGGGT
79▶ S W E A Y L E 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

SgrAI (2018)

2001 ACGTCTCCCGACACACCGGCAAGTCTCTCCACGAAGTCCCGGAGAACCAGCCGGTCCGAGACTCGACCGCTCCGGCGACGTCCGGC
45▶ V D D R V V G 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

2101 CGGTGAGCACCGGAACGGCACTGGTCAACTGGCCATGATGGCTCCTCTGTCAGGAGAGAAAGAGAAGGTTAGTACAATTGCTATAGTGAGTTGT
12▶ T L V P V A S T L K A M

2201 ATTATACTATGACAGATATACTATGCCAATGATTAATTGTCAAAGTAGGGCTGCAGGTTAATTAAGAACATGTGAGCAAAAGGCCAGAAAAGGCCAGGAA

2301 CCGTAAAAAGCCGCTTGTGCGTTTTTCCATAGGCTCCGCCCTGACGAGCATCACAATAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACA

2401 GGAATAAAGATACCAGGCTTTCCCTGGAAGCTCCTCGTGCCTCTCCTGTTCCGACCCTGCCGCTTACCGGATACCTGCCCTTTCTCCCTT

2501 CGGGAAGCTGGCGCTTTCATAGCTCAGCTGTAGGTATCTCAGTTCGGTGTAGGTGTTGCTCAGCTCAAGCTGGGCTGTGTCAGCAACCCCGTTCA

2601 GCCCGACCGTGGCCTTATCCGTAACATCGTCTTGTAGTCAACCCGTAAGACACGACTTATCGCACTGGCAGCAGCCACTGGTAACAGGATTAGC

2701 AGAGCGAGGTATGTAGGCGTGTACAGAGTCTTGAAGTGGTGGCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTGCTGAAAGC

2801 CAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGTATCCGGCAAAACAACCCGCTGGTAGCGGTGTTTTTTGTTTGAAGCAGCAGATTACGCGCAG

2901 AAAAAAGGATCTCAAGAAGATCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAA

3001 TTAACATTTAAATCA