



EcoRI (23)

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

1 **CGGGCCGCTCGACGATATCTAGAATTCGGATCCTGCAGGGCCCACTAGTAAACGGAGGGTTGTGAGGAGAGTGAGAGGTGACAGAGGGCACCGACGAT**

101 **TTAGCATCTCTTCTCTCTCTGGGGTTCGAGGATGAGAGACAAAAAGAAGCTGCCAGAAACATAAAATTCAGAGGGCTCAGCTGCAGGGCTGAGGTCTG**

BsrGI (211)

201 **CAAGCATGCTGTACACTTGTGCATGTTGTGCCCTGCACAAGGGCATCTCTGAAGGGGCTGACTGGACCCAGGGGCAGGGGCCAAAGGTGAGTTTAT**

301 **ATCAGTTCCTGAGCACTGTGGCTCCATCCAGCACTCTGAGGACAGCCAGGATACAGCTGGAGGACCTGAGGGCTCCCCACACCAGCTCCTGTTCCCTGC**

401 **CCAAGACCCCTGGACCTGCAGACAACAATCAACGCACTCAGAGTCCACAGTTAAGAACTCCCTGAAGAAGCCCCAGTGGCTGCGTGGTGGATTTC**

501 **GCAAAGCTGTCTCCACTACATCCACCCTGTTTGGCAGCCCCTACATACTCTTTCACAGCATGAGGAAGGGAGGCCTCTACCAAGACCTGGACTGAATC**

601 **TTCTCCAGTGGCTGCCACACCTGACCTGCTTGTCTCCAGAACCTCTGTGGCTCCATCCTCCACAGGGTCAACTTCCAACATGGCTGCCTGCACTCCA**

701 **GCCAAGAGGCTCTGCTCTGGGCCCTCCAGATGCCTGACCTGGTCTGTGGCTGCCCTGTCTTCTCAGTCTCTTCCCGCTGGTGAGGAATAGT**

801 **TCAGGACAGAGGAGCTAAGTTCAGGTTCAATCATAGGACAGGTGCCTATTTCTGCTCACGGCCAGGAATAGAGACTTGCCGGGCTCGGCCCTCGGGGAG**

AgeI (945)
SgrAI (945)

901 **TTGGCAGACGGCAGAGGGGAGGCTGGCTGGCCAGGGGATGACCACCCGGTGGGTAAGCACAGACAGAGGGGAGCACAGGCTTCCCCAGAAGACTGAGA**

1001 **GGCCCCCAGAGGCATCCACAGAGGACCCAGCTGTGCTGCCAAGCTGGGCGACCCCAAACCTTAGCGGCCAGCTGACAAAAGCTGCCCTCCCCCA**

1101 **GGGTCCCCGAGAGCTGGTGCCTCCCTGGGTCCCAATTTGCATGGCAGGAAGGGGCTGGTGAAGGAGGCGGGGAGGGGACAGGCTGCAGCCGGTGC**

NotI (1269)

1201 **AGTTACAGTTTTCTCCAAGGAGCCTCGGACGTTGTCACGGTTTTGGGTCGGGACAGAGCGGTGACCATGGAATCAAGGTGCTGTTGGCCCTCATC**
1 → M E I K V L F A L I

BglII (1384)

1301 **TGTATTGCTGTTGCTGAGGCAAAACCCTGAAATCAATGAAGACCTCAATATAGCTGCTGTGGCCTCCAACCTTGGCCACCACAGATCTTGAGACTGACC**
11▶ 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 T D

1401 **TGTTCACTGGGAGACCATGAATGTGATTAGCACTGACACAGAGCAGGTGAACACAGATGCTGACAGGGCAAGCTGCTGGCAAAAACCTCCCCC**
44▶ 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 L P P

1501 **AGATGCTGAGGGAGCTGGAGGCCAATGCCAGAAGGGCTGTTGCACAAGAGGCTGCCTCATTGCTCTCCACATTAAGTGACCCCTAAGATGAAG**
77▶ 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 K M K

1601 **AAATTTATCCCTGGCAGGTGCCACACTTATGAAGGTGAAAAGGAGTCTGCTCAGGGAGGGATTGGAGAGGCAATGTTGATATCCAGAGATTCTGGCT**
111▶ 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 P G

1701 **TCAAGGATAAGGAGCCACTGGACAGTTTATTGCTCAAGTGGACCTCTGTGCTGATTGCACCACTGGCTGTCTGAAGGGCCTTGCCAAATGTCCAGTGCTC**
144▶ 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 Q C S

1801 **TGACCTCTGAAGAAGTGGCTTCCCCAGAGGTGTACCACTTTTCCAGCAAGATTGAGGGTAGGGTGGACAAAATCAAGGGTCTGGCTGGGGACAGATGA**
177▶ 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 D R •

NheI (1903)

1901 **TAGCTAGCTGGCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTAAAAAATGCTTTATTTGTGAAATTTGTGATGC**

2001 **TATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAACAACAACAATTGCATTCATTTTATGTTTCAGGTTTCAGGGGAGGTGGGAGGT**

2101 **TTTTAAGCAAGTAAACCTCTACAATGTGGTATGGAATTAATTCTAAAATACAGCATAGAAAACCTTAACTCCAATCAAGCCTCTACTTGAATCC**

2201 **TTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTG**

SspI (2382)

2301 **TATTTTCCAAGGTTTGAAGTACTCTTCTTCTTATGTTTTAAATGCACCTGACCTCCACATTCCTTTTTAGTAAAAATTCAGAAATAATTTAAA**

2401 **TACATCATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTATAATATCCCCAGTTTAGTGTGGACTTAGGGAAC**

2501 **AAAGGAACCTTTAATAGAAATGGACAGCAAGAAAGCGAGCTTCTAGCTTATCTCAGTCTGCTCCTCTGCCACAAAGTGACCGCAGTTGCCGGCCGGG**
125◀ • D Q E E A V F H V C N G A P

2601 **TCGCGCAGGGCGAACTCCCGCCCCACGGTCTCGCCGATCTCGGTGATGGCCGGCCGGAGGCGTCCCGGAAGTTCTGGACACGACCTCCGACCACT**
109◀ 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 S W E

2701 **CGGCGTACAGCTGCTCAGGCGCGCACCCACCCAGGCCAGGGTGTGTCGGCCACCACTGGTCTGGACCGGCTGATGAACAGGGTACGCTCGTC**
76◀ 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 V D D

SgrAI (2810)

2801 **CCGGACCAACCCGGAAGTCTCTCCACGAAGTCCCGGAGAACCCGAGCCGGTGGTCCAGAAGTCCGACCGCTCCGGCGAGTCCGGCGGGTGGAGC**
43◀ R V V A G 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

2901 **ACCGGAACCGCACTGGTCAACTTGGCCATGATGGCTCCTCTGTGAGGAGGAAAGAGAAGGTTAGTACAATTGCTATAGTGAGTTGTATTATACT**
9◀ V P V A S T L K A M

3001 **ATGCAGATATACTATGCAATGATTAATTGTCAAAGTGGGCTGCAGGTTAATTAAGAATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAA**

3101 AGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATA
3201 AAGATACCAGGCGTTTCCCCCTGGAAGCTCCCTCGTGCGCTCTCTGTTCCGACCTGCCGCTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGC
3301 GTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTTCAGCCCGACC
3401 GCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAG
3501 GTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACC
3601 TTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAACCACCGCTGGTAGCGGTGGTTTTTTTGGTTTGAAGCAGCAGATTACGCGCAGAAAAAAG
3701 GATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATT
3801 TAAATCA