



PvuI (7) SgfI (6) MfeI (82) EcoNI (96)
1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
101 GAGAAGGTGGCGGGGTAACCTGGAAAGTGTGTCGTGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245) PvuII (239) Bsu36I (291)
201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACCGCGCCCGCCCTACCTGAGGCC
301 GCCATCCACGCGGTTGAGTGCCTGCTGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
401 GGGCCTTTGTCCGGCGCTCCTTGGAGCCTACCTAGACTCAGCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGTCTTTGTTTCGTTT

NcoI (560) BstEII (555) AgeI (552)
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGCGCCTACCTGAGATCACCGGTACCATTGGGTGCCCGACGTTGCCCTGCCTGGCAGCCCTT
1 M G A P T L P P A W Q P F

BsrBI (667)
601 TCTCAAGGACCACCGCATCTCTACATTCAAGAAGTGGCCCTTCTGGAGGGTGCCTGCACCCCGAGCGGATGGCCGAGGCTGGCTTCATCCACTGC
13 L K D H R I S T F K N W P F L E G C A C T P E R M A E A G F I H C
701 CCCACTGAGAACGAGCCAGACTTGGCCAGTGTCTTCTGCTTCAAGGAGCTGGAAGGCTGGGAGCCAGATGACGACCCCATAGAGGAACATAAAAAAGC
47 P T E N E P D L A Q C F F C F K E L E G W E P D D P I E E H K K
801 ATTCGTCGGTTGCGCTTTCCTTTCTGTCAAGAAGCAGTTTGAAGAATTAACCCCTTGGTGAATTTTGAACCTGGACAGAGAAAGCAAAACAAAAT
80 H S S G C A F L S V K K Q F E E L T L G E F L K L D R E R A K N K I

PvuII (970) MscI (997)
901 TGCAAAGGAAACCAACAATAAGAAGAAAGAATTTGAGGAAACTGCGAAGAAAGTGCAGCGTCCATCGAGCAGCTGGCTGCTATGGATTGAGCTAGCTGG
113 A K E T N N K K K E F E E T A K K V R R A I E Q L A A M D •
1001 CCAGACATGATAAGATACATTGATGAGTTTGGACAAACCAACTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTAT

HpaI (1129) MfeI (1140)
1101 TTGTAACCATTATAAGCTGCAATAAACAAGTTAACAACAACAATTGCATTCATTTTATGTTTCAGGTTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAA

EcoRI (1225)
1201 GTAAACCTCTACAAATGTGGTATGGAATTTCAAAATACAGCATAGCAAACTTTAACCTCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGA
1301 ATAAGGCATAGGCATCAGGGGCTTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTCTTTTCATGGAGTTTAAAGATATAGTATTTTCCCAAGGTT

SapI (1407) SspI (1464) SmaI (1478)
1401 TGAAGTACTCTTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTGTAGAAAATATTCAGAAATAATTTAAATACATCATTGCAATG

EcoO109I (1539)
1501 AAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGAACCTTTAAT
1601 AGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCAT
141 • N R T Y K L P I L E E I T T K V L K G N M

SacI (1739) BstXI (1768)
1701 CTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGTGACCACCCTGATGGATCTGTCCACCTCATCAGAG
119 E I L V F C D P A Y D S I L E R C M G C P S V V R I S R D V E D S
1801 TAGGGTGCCTGACAGCCACAATGGTGTCAAAGCTTCTGCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAA
85 Y P H R V A V I T D F D K Q G N S V A S G I A I A E A C V T V R G I

StuI (1903)
1901 TGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGCTTGTGTCTCATAGAGCATGGTGATCTT
52 Y A E I H V A S I I E G T K T R I A A G V H H K N D E Y L M T I K

BbsI (2049) XmnI (2045)
2001 CTCAGTGGCGACCTCCACAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGGTGGCCCTCCTATAGTGAGTCGTATTATACTATGCCGATATA
19 E T A V E V L E L D Q Q S I N F T K M

AseI (2111) SacI (2168)
2101 CTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCACTAAACGAGCTGCTGTTATATAGACCTCCACCGTACA

SpeI (2266)
2201 CGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTGGAAAGTCCCGTTGATTTACTAGTCAAACAAACTCCCATGACGTCAATGG

SnaBI (2394)
2301 GGTGGAGACTTGGAAATCCCGTGAGTCAAACCGCTATCCAGCCCATGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTA

NdeI (2499)
2401 GATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGC
2501 ATATGATACACTTGTGACTGCCAAGTGGGAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACAT

PacI (2685)

PstI (2678)

SdaI (2677) BspLU11I (2695)

2601 ACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTCAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCTGCAGGTTAAATAAGAACATG
 2701 TGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGAC
 2801 GCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTTCCCCCTGGAAGCTCCCTCGTGCCTCTCCTGTTCCGACCCCTGCCGCT
 2901 TACCGGATACCTGTCCGCCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGGTAGGTCGTTCCGCTCCAAG

ApaLI (3009)

3001 CTGGGCTGTGTGCACGAACCCCGTTAGCCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCAC
 3101 TGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAAC
 3201 AGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGTTTT
 3301 TTTGTTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGGAAACGAAAACCTCAC

EagI (3445)

PacI (3425) SwaI (3434) NotI (3444)

3401 GTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCGAATAAAATATCTTTATTTTCATTACATCTGTGTGTTGTTTTTGTGT
 3501 GAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAACATTTCT
 3601 TCTATCGAA