



PvuI (7)
SgfI (6) MfeI (82) EcoNI (96)
1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245) Bsu36I (291)
Psp1406I (203) **PvuII (239)** EcoNI (287)
201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACACGGCCCGCCCTACCTGAGGCC
301 GCCATCCACGCGGTTGAGTGCAGTCTGCCGCTCCCGCCTGTGGTGCCTCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCGCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

AgeI (552) **NcoI (560)** BbsI (583)
XcmI (579)
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCCTACCTGAGATCACCGGTACCATTGGCAGAGCATGATTACCATGAAGACTATGGGTTCCAG
1▶ M A E H D Y H E D Y G F S

PstI (640)
601 CAGTTTCAATGACAGCAGCCAGGAGGAGCATCAAGACTTCTGCAGTTTCAGCAAGGCTTTTCTGCCCTGCATGTACTGGTGGTGTGTCTGTGGTCTG
13▶ S F N D S S Q E E H Q D F L Q F S K V F L P C M Y L V V F V C G L
701 GTGGGAACTCTCTGGTGGTGCATATCCATCTTCTACCATAAGTTGCAGAGCCTGACGGATGTGTTCTGGTGAACCTACCCTGGCTGACCTGGTGT
47▶ V G N S L V L V I S I F Y H K L Q S L T D V F L V N L P L A D L V

MscI (852)
801 TTGTCTGCACTCTGCCCTTCTGGCCTATGCAAGCATCCATGAATGGTGTGTTGGCCAGGTCATGTGCAAGAGCCTACTGGGCATCTACACTATTAACCT
80▶ F V C T L P F W A Y A G I H E W V F G Q V M C K S L L G I Y T I N F

SfiI (960)
901 CTACACGTCCATGCTCATCCTCACCTGCATCACTGTGGATCGTTTATTGTAGTGGTTAAGGCCACCAAGGCCTACAACCAGCAAGCCAAGAGGATGACC
113▶ Y T S M L I L T C I T V D R F I V V V K A T K A Y N Q Q A K R M T

EcoRV (1032) **XcmI (1056)** **NdeI (1095)**
1001 TGGGCAAGGTCACCAGCTTGCTCATCTGGGTGATATCCCTGCTGGTTTCTTCCGCCCCAAATTATCTATGGCAATGCTTTAATCTCGACAAGCTCATAT
147▶ W G K V T S L L I W V I S L L V S L P Q I I Y G N V F N L D K L I
1101 GTGGTTACCATGACGAGGCAATTTCCACTGTGGTCTTCCACCAGATGACACTGGGGTCTTCTTCCACTGCTCACCATGATTGTCTGCTATTGCT
180▶ C G Y H D E A I S T V V L A T Q M T L G F F L P L L T M I V C Y S V

BglIII (1243)
1201 CATAATCAAACACTGCTTCATGCTGGAGGCTTCCAGAAGCACAGATCTCTAAAGATCATCTTCTGGTGTGGTGTGTTCTGCTGACCCAGATGCC
213▶ I I K T L L H A G G F Q K H R S L K I I F L V M A V F L L T Q M P

BspHI (1307) **EcoO109**
Bsu36I (1395)
1301 TTCAACCTCATGAAGTTCATCCGACGACACACTGGGAATACTATGCCATGACCAGTTCCTACTACACCATCATGGTGACAGAGGCCATCGCATACTGA
247▶ F N L M K F I R S T H W E Y Y A M T S F H Y T I M V T E A I A Y L

BstBI (1445)
Bsp119I (1445)
1401 GGGCTGCCTTAACCTGTGCTCTATGCTTTGTGAGCCTGAAGTTTCGAAAGAAGTCTGGAAGACTTGTGAAGGACATTGGTGGCTCCCTTACCTTGG
280▶ R A C L N P V L Y A F V S L K F R K N F W K L V K D I G C L P Y L G

DraIII (1555)
1501 GGTCTCATCAATGAAATCTTCTGAGGACAATTCCAAGACTTTTCTGCCTCCCAATGTGGAGGCCACCAGCATGTTCCAGTTATAGGCCCTTGCCA
313▶ V S H Q W K S S E D N S K T F S A S H N V E A T S M F Q L •

MscI (1646)
1601 GGGTTTCGAGAAGCTGCTCTGGAATTTGCAAGTCATGGCTGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATG

HpaI (1778) **MfeI (1789)**
1701 CAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAAACAAGTTAAACAACAACAATTGCATTC

EcoRI (1874)
1801 ATTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCTAAATACAGCATAGCAAAA
1901 CTTAACCTCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAG

SapI (2056)
2001 CCTCACCTTCTTTCATGGAGTTTAAAGATATAGTGTATTTTCCCAAGGTTTGAAGTCTCTTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATT

SspI (2113) **SwaI (2127)** **EcoO109I (2188)**
2101 CCCTTTTTAGTAAATATTCAGAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATA
2201 ATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTAAATAGAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACT
141▶ • N R T Y K

SacI (2388)
2301 TGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTCCATTCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCGCA
135▶ 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 S I L E R C

BstXI (2417)
2401 CATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTC
102▶ 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 D K Q G N S

2501 ACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCTCAATGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTGA
68 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 G T K T R I

BbsI (2698)
XmnI (2694)

2601 TGGCCGCCCCGACATGGTGTCTTGTGCTCATAGAGCATGGTATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCTGCTGAGAGATGTTGAAGT
35 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 Q S I N F T

AseI (2760)

2701 CTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCAGCTTAT
2 K M

SacI (2817)

2801 CTGACGGTTCACATAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTCGCTCAATGGGGCGGAGTTGTTACGACATTTTGA

SpeI (2915)

2901 AAGTCCCCTTATTACTAGTCAAAACAACTCCCATTTGACGTCAATGGGGTGGAGACTTGGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGA

SnaBI (3043)

3001 TGTACTGCCAAAACGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTAAGTGGCATAATG

NdeI (3148)

3101 CCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGTACTGCTCAAGTGGGCGAGTTTACCGTAAATACTCC

3201 ACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCAATTATTGACGTCAATGGGCGGGGTCTTGGGCGGTCAGCCAGGCG

PacI (3334)

PstI (3327)
SdaI (3326) BspLU11I (3344)

3301 GGCCATTTACCGTAAGTTATGTAACGCTGCAGGTTAATAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGGCCGCTTGCTG
3401 GCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGT
3501 TTCCCCTGGAAGCTCCCTCGTGCCTCTCTGTTCGACCCTGCCGCTTACCGGATACCTGTCCGCTTTTCCCTTCGGAAGCGTGGCGCTTTCTCA

ApaLI (3658)

3601 TAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTCCAGCCGACCGCTGCGCTTATCC
3701 GGTAACTATCGTCTTGTGTCACCCGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTG
3801 CTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGT
3901 TGGTAGCTCTTGATCCGGCAAACAACCCGCTGGTAGCGGTGGTTTTTTTGTGTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGAT

EagI (4094)
PacI (4074) SwaI (4083) NotI (4093)

4001 CTTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAACTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCG

4101 CAATAAAATATCTTTATTTTATTACATCTGTGTGGTTTTTTGTGTAATCGTAACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAAA
4201 CTAGCAAAATAGGCTGTCCCAGTGCAAGTGCAGGTGCCAGAATTTCTCTATCGAA