



PvuI (7)
SgfI (6)
MfeI (82)

1 GGATCTGCGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA

101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTGTCTGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245)

Psp1406I (203)
PvuII (239)
Bsu36I (291)

201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACCGCGCCGCCCTACCTGAGGGC

301 GCCATCCACGCCGGTTGAGTCGCGTTTCTGCCGCTCCCGCCTGTGGTGCTCCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTGCCTGACCCTGCTTGTCAACTCTACGCTTTTGTTCGTTT

AgeI (552) BspHI (560)

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCGCTACCTGAGATCACCGGTATCATGACAGAAACCGATGGCTTCTACAAAAGTAGGGAAGT

601 GTTCGATCCAGCCGAGCAGTACAAGTGGACCAAGAGGAGAGGAGTTGCCCTCATCTTCAATCACGAGAGGTTCTTTGGCACCTGACCCTCCAGAG

13▶ F D P A E Q Y K M D H K R R G V A L I F N H E R F F W H L T L P E

1▶ M T E T D G F Y K S R E V

BglII (747)

701 AGGCGGGCACCAACGCAGACAGAGACAACCTGACTCGCAGTTTTTCAGATCTAGGATTTGAAGTGAATGCTTTAACGACCTCAGAGCAGAAGAACTCC

47▶ R R G T N A D R D N L T R R F S D L G F E V K C F N D L R A E E L

SalI (819)

DraIII (811)
BbsI (859)
NcoI (870)

801 TGCTCAAATTCACGAGGTGTCGACTTCAAGCCACATAGATGCCGATTGCTTCATCTGTGCTTCTGAGCCATGGGAAGGCAACCACGTTTACGCATA

80▶ L L K I H E V S T S S H I D A D C F I C V F L S H G E G N H V Y A Y

PshAI (946)
BsaBI (978)
StuI (992)

901 CGACGCCAAAATTGAAATTCAGACGTTGACTGGCTTGTCAAAGGAGACAAGTGTGAGAGCCTGGTTGGAAAACCAAGATATTTATCATCCAGGCCTGT

113▶ D A K I E I Q T L T G L F K G D K C Q S L V G K P K I F I I Q A C

BsrGI (1097)

1001 CGGGTAGCCAGCATGACGTACCCGTTCCCTGGACATGGTGGATCACCAGACAGACAAGCTGGACAACGTGACCAGGTGGATGCTGCGTCCGTGT

147▶ R G S Q H D V P V V P L D M V D H Q T D K L D N V T Q V D A A S V

NgoMIV (1107)

1101 ACACGCTGCCGGCAGGGGAGAGACTTCTCATGTGCTACTCTGTGCGAGAAGGGTATTACTCTCACCGAGAACTGTGAATGGCTCCTGGTACATTCAGGA

180▶ Y T L P A G A D F L M C Y S V A E G Y Y S H R E T V N G S W Y I Q D

1201 TTTGTGTGAGATGCTGGCGAGGTACGGCAGTCCCTGGAGTTCACGGAGCTGCTCACGCTGGTGAACAGAAAGTCTCTCAGCGCCGCTGGACTTCTGC

213▶ L C E M L A R Y G S S L E F T E L L T L V N R K V S Q R R V D F C

1301 AAAGACCCGGATGCAATCGGCAAGAAGCAGGTGCCCTGCTTGCCTCAATGCTGACAAAAAGCTGCATTTCTGTCCAAACCTAGCAAGTAGGGCCATC

247▶ K D P D A I G K K Q V P C F A S M L T K K L H F C P K P S K •

MscI (1466)

PvuII (1448)
NheI (1460)

1401 TGTCTTGCTACATATATTTACACACATTTCCCTTTTTATACAAAGGCCAGCTGGTGAAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTG

HpaI (1598)

1501 GACAAACCACAAC TAGAATGCAGTGAATAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAACAAGT

MfeI (1609)
EcoRI (1694)

1601 TAACAACAACAATTGCATTATTTATGTTTCAGGTTACGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTC

1701 TAAATACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAA

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SapI (1876)

1801 TGTGCATTAGCTGTTTGACGCTCACCTCTTTTCATGGAGTTAAGATATAGTGTATTTTCCAAGTTTGAAGTACTGCTCTTCAATTTCTTTATGTTTTAA

SspI (1933)
SwaI (1947)

1901 ATGCACTGACCTCCACATTTCCCTTTTATGAAAATATTCAGAAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCA

EcoO109I (2008)

2001 GATGCTCAAGGCCCTTATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTA

2101 GCTTTAGTTCCTGGTACTTGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCAATGAGCACAAGCAGTCAGGAGCATAG

141▶ • N R T Y K 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

SacI (2208)
BstXI (2237)

2201 TCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAA

108▶ D S I L E R C 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

StuI (2372)

2301 AGTCCTTCTGCCGTTGCTCACAGCAGACCAATGGCAATGGCTTTCAGCACAGACAGTACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGAT

75▶ D K Q G N S 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

2401 CTCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGCTTGTGTCCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCC
42 E G T K T R I 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

BbsI (2518)

XmnI (2514) AseI (2580)

2501 TGCTGAGAGATGTTGAAGGTCTTCATGGTGGCCCTCCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGT
8 Q Q S I N F T K M

SacI (2637)

2601 GGATGGCGTCTCCAGCTTATCTGACGGTTCACATAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCCATTTGCGTCAATGGGGCGG

SpeI (2735)

2701 AGTTGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAACAAACTCCCATTTGACGTCAATGGGGTGAGACTTGAAATCCCGTGAGTCAA

SnaBI (2863)

2801 CCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAG

NdeI (2968)

2901 GTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGG

3001 CAGTTTACCGTAAATACTCCACCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGGTC

PacI (3154)

PstI (3147) SdaI (3146) BspLU11I (3164)

3101 GTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCTGCAGGTTAATAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACC
3201 GTA AAAAGGCCGCTTGTGCGGTTTTTCCATAGGCTCCGCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGG
3301 ACTATAAAGATACCAGGCGTTTTCCCCCTGGAAGCTCCCTCGTGCCTCTCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCG

ApaLI (3478)

3401 GGAAGCGTGGCGCTTTTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTGAGC
3501 CCGACCGTGGCGCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAG
3601 AGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCA
3701 GTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAACACCGCTGGTAGCGGTGGTTTTTTTGTGTTGCAAGCAGCAGATTACGCGCAGAA

PacI (3894)

3801 AAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATT

EagI (3914)

Swal (3903) NotI (3913)

3901 AACATTTAAATCAGCGGCCGAATAAAAATATCTTTATTTTATTACATCTGTGTGGTTTTTTGTGTAATCGTAACTAACATACGCTCTCCATCAA
4001 ACAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCGAGTGCAAGTGACAGGTGCCAGAACATTTCTCTATCGAA