



PvuI (7) SgfI (6) MfeI (82) EcoNI (96)
 1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
 101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245) Bsu36I (291) Psp1406I (203) PvuII (239) EcoNI (287)
 201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCAGAGGGCTCGCATCTCTCTTACAGCGCCCGCCGCTACCTGAGGCC
 301 GCCATCCACGCGGTTGAGTGCAGTCTGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
 401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGCTTTTGTTCGTTT

KasI (535) AgeI (552)
 501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCGCTA CTTGAGATCACCGGTTCATGAAACAAGCCTTTACAGGGCCGTGCAGAAGGAAGT
 1 M K Q A F Q G A V Q K E L

DraIII (604) Eco47III (620) Bsu36I (685)
 601 GCAACACATTGTGGGGCCACAGCGCTTCTCAGGAGCTCCAGCTATGATGGAAGGCTCATGTTGGATGTGGCCAGCGAGGCAAGCCTGAGGCCACAGCCA
 13 Q H I V G P Q R F S G A P A M M E G S W L D V A Q R G K P E A Q P

PvuI (774) Acc65I (767) BglII (791)
 701 TTTGCACACCTCACCATCAATGCTGCCAGCATCCCATCGGGTCCCATAAAGTCACTCTGTCTCTTGGTACCACGATCGAGGCTGGGCCAAGATCTCTA
 47 F A H L T I N A A S I P S G S H K V T L S S W Y H D R G W A K I S

HpaI (829)
 801 ACATGACGTTAAGCAATGGAAAACCTAAGGGTTAACCAAGATGGCTTCTATTACCTGTACGCCAACATTTGCTTTCGGCATCATGAAACATCGGGAAGCGT
 80 N M T L S N G K L R V N Q D G F Y Y L Y A N I C F R H H E T S G S V

PvuII (916)
 901 ACCTACAGACTATCTTCAGCTGATGGTGTATGTCGTTAAACCAGCATCAAATCCCAAGTTCCTATAACCTGATGAAAGGAGGGAGCACGAAAACTGG
 113 P T D Y L Q L M V Y V V K T S I K I P S S H N L M K G G S T K N W

EcoRI (1012)
 1001 TCGGGCAATTCTGAATTCACCTTTATTCCATAAATGTTGGGGGATTTTTCAAGCTCCGAGCTGGTGAAGAAATTAGCATTGAGGTGTCCAACCTTCCC
 147 S G N S E F H F Y S I N V G G F F K L R A G E E I S I Q V S N P S

BspEI (1107) BsaBI (1105) BamHI (1104) MscI (1186) NheI (1180)
 1101 TGCTGGATCCGGATCAAGATGCGACGTAATTTGGGGCTTTCAAAGTTCAGGACATAGACTGAGACTCATTTCGTGGAACAGCTAGCTGGCCAGACATGAT
 180 L L D P D Q D A T Y F G A F K V Q D I D •

1201 AAGATACATTGATGAGTTTGACAAACCACAAC TAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATT

HpaI (1318) MfeI (1329)
 1301 ATAAGCTGCAATAAACAAGTTAAACAACAACAATTGCATTCATTTATGTTTCAGGTTTCAGGGGAGGTGTGGAGGTTTTTAAAGCAAGTAAACCTCT

EcoRI (1414)
 1401 ACAAATGGGTATGGAATTTCAAATACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAG
 1501 GCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGAGCCTCACCTTCTTTTCATGAGTTTAAGATATAGTGATTTTTCCAAGGTTTGAAGTCTC

SspI (1653) SwaI (1667)
 1601 TTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTTAGTAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAAAATGT

EcoO109I (1728)
 1701 TTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAATTGGAC

1801 AGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCATTCTCTCAATGAGCA
 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

BstXI (1957)
 1901 CAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCT
 115 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 Y P H R

StuI (2092)
 2001 GACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTTCAGCACAGACAGTACCCTGCCAATGTAGGCCCTCA
 82 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 Y A E

2101 ATGTGACAGCAGAGATGATCTCCAGTCTGGTCTGATGGCCGCCCCGACATGGTGTGTTGTCTCATAGAGCATGGTATCTTCTCAGTGGCGA
 48 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 E T A V

BbsI (2238) XmnI (2234)
 2201 CCTCCACAGCTCCAGATCTGCTGAGAGATGTTGAAGTCTTATGATGGCCCTCTATAGTGAAGTATTATACTATGCCGATATACTATGCCGATG
 15 E V L E L D Q Q S I N F T K M

AseI (2300)
 2301 ATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTATCTGACGGTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCTACCGC

SpeI (2455)
 2400 CCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAACAAACTCCCATGACGTCAATGGGGTGGAGAC

SnaBI (2583)

2499 TTGGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTG

NdeI (2688)

2599 CCAAGTAGGAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATAC

2699 ACTTGATGTACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTA

PstI (2867)

SdaI (2866) **PacI (2874)** **BspLU11I (2884)**

2799 TTGACGTCAATGGGCGGGGTCGTTGGGCGGTACGCCAGGCGGGCCATTTACCGTAAAGTTATGTAACGCCCTGCAGGTTAA TTAAGAACATGTGAGCAA

2897 AAGGCCAGCAAAGGCCAGGAACCGTAAAAAGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAG

2997 TCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTTCCCTGGAAGCTCCCTCGTGCCTCTCTGTCCGACCTGCCGCTTACCGGA

3097 TACCTGTCCGCCTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCT

ApaLI (3198)

3197 GTGTGCACGAACCCCGTTCAGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGC

3297 AGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTT

3397 GGTATCTGCCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTGT

3497 GCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGGAAACGAAAACCTCACGTTAAGG

EagI (3634)

PacI (3614) **Swal (3623)** **NotI (3633)**

3597 GATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCGCAATAAAATATCTTTATTTTCATTACATCTGTGTGTTGTTTTTGTGTGAATCGT

3697 AACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCG

3797 AA