



100

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

Psp1406I (203) HindIII (245) Bsu36I (291) EcoNI (287)
 201 GTGAACGTTCTTTTTTCGCAACGGGTTTCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACACGCCGCCGCCCTACCTGAGGCC
 301 GCCATCCACGCCGGTTGAGTCGCGTTCTGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441) NaeI (441)
 401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGTCTTTGTTTCGTTT

PciI (560) BspLU11I (560)
 501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCCTACCTGAGATCACCGGTCAACATGTGGTCTTGACAACCTGCTCCTTTGGTTCCAGT
 1 M W F L T T L L L W V P V

NcoI (646)
 601 TGATGGGCAAGTGGACACCACAAAGGCAGTGATCACTTTGAGCCTCCATGGGTGAGCGTGTCCAAGAGGAAACCGTAACTTGCAGTGTGAGGTGCTC
 13 D G Q V D T T K A V I T L Q P W V S V F Q E E T V T L H C E V L

DraIII (720)
 701 CATCTGCCTGGGAGCAGTCCACACAGTGGTTTCTCAATGGCAGCCACTCAGACCTCGACCCAGCTACAGAATCACCTCTGCCAGTGTCAATGACA
 47 H L P G S S S T Q W F L N G T A T Q T S T P S Y R I T S A S V N D
 801 GTGGTGAATACAGGTGCCAGAGAGGTCTCTCAGGGCGAAGTGACCCATACAGCTGAAATCCACAGAGGCTGGCTACTACTGCAAGTCTCCAGCAGAGT
 80 S G E Y R C Q R G L S G R S D P I Q L E I H R G W L L L Q V S S R V

BsrGI (956)
 901 CTTTATGGAAGGAGAACCCTGCGCCTTGGGTGTCATGCGTGGGAAAGATAAGCTGGTGTACAATGTGCTTTACTATCGAAATGGCAAAGCCTTTAAGTTT
 113 F M E G E P L A L R C H A W K D K L V Y N V L Y Y R N G K A F K F

EcoRI (1008)
 1001 TTCCACTGGAATTCTAACCTCACCATTCTGAAAACCAACATAAGTCAATGGCACCTACCATTGCTCAGGCATGGGAAAGCATCGTACACATCAGCAG
 147 F H W N S N L T I L K T N I S H N G T Y H C S G M G K H R Y T S A

StuI (1122) Eco147I (1122) XcmI (1135)
 1101 GAATATCACAATACACTGTGAAAGGCCTCCAGTTACCAACTCCTGTCTGGTTTCTATGTCCTTTCTATCTGGCAGTGGGAATAATGTTTTAGTGAACAC
 180 G I S Q Y T V K G L Q L P T P V W F H V L F Y L A V G I M F L V N T

SnaBI (1217) Eco105I (1217) BspHI (1275)
 1201 TGTTCTCTGGGTGACAATACGTAAGAAGAACTGAAAAGAAAGAAAAGTGGAAATTTAGAAATCTCTTTGGATTCTGGTCATGAGAAGAAGTAATTTCCAGC
 213 V L W V T I R K E L K R K K K W N L E I S L D S G H E K K V I S S

ApaLI (1372)
 1301 CTTCAAGAAGACAGACATTTAGAAGAAGAGCTGAAATGTCAGGAACAAAAGAAGAAGCAGCTGCAGGAAGGGGTGCACCGGAAGGAGCCCGAGGGGCCA
 247 L Q E D R H L E E E L K C Q E Q K E E Q L Q E G V H R K E P Q G A

PvuI (1427) ClaI (1425) MscI (1438) MscI (1420) NheI (1432)
 1401 CGTAGCAGCGGCTCAGTTGGTGGCCATCGATCGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAAA
 280 T •

HpaI (1570) MfeI (1581)
 1501 AAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAGTTAAACAACAACATTGCATTCAATTTATG

EcoRI (1666)
 1601 TTTCAGGTTACAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTATGGAATCTAAAATACAGCATAGCAAACTTTAAC
 1701 TCCAAATCAAGCCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTCATTAGCTGTTGCAGCCTCACCT
 1801 TCTTTTATGGAGTTAAGATATAGTGTATTTTCCCAAGGTTTGAAGTACTGCTTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTT

SspI (1905) SmaI (1919) EcoO109I (1980)
 1901 AGTAAAATATTTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCC
 2001 CAGTTTAGTAGTTGGACTTAGGGAACAAGAACCTTTAATAGAATTTGGACAGCAAGAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGAGGGGG
 141 • N R T Y K L P

SacI (2180)
 2101 ATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCATTCTCAATGAGCACAAAGCAGTCAAGGAGCATAGTCAAGATGAGCTCTTCGCACATGCCAC
 132 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 M G C
 2201 AGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGTCTCAGCAGAGA
 99 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 V A S

StuI (2344) Eco147I (2344)
 2301 CCCAATGGCAATGGCTTCCAGCACAGACAGTACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAAGTCTTGGTCTGATGGCCGCC
 66 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 A A

2401 CCGACATGGTGTGTTGTTGCCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGA
32 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 K M

VspI (2552)

AseI (2552)

2501 TGGCCCTCCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCAGCTTATCTGACGG

SacI (2609)

2600 TTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCC

SpeI (2707)

2700 GTTGATTTACTAGTCAAAAACAACTCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCGTGAGTCAAACCGTATCCACGCCATTGATGACT

SnaBI (2835)

Eco105I (2835)

2799 GCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGC

NdeI (2940)

2899 GGGCCATTTACCGTCATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCCAT

2999 TGACGTCAATGAAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGCGGGGGTCTTGGCGGTCAGCCAGGCGGGCCAT

SdaI (3118)

PacI (3126)

PciI (3136)

BspLU11I (3136)

3099 TTACCGTAAGTTATGTAACGCCTGCAGGTTAA TTAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGCCGCGTTGCTGGCGT

3197 TTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCC

3297 CCTGGAAGCTCCCTCGTGCCTCTCCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGC

ApaLI (3450)

3397 TCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTACGCCGACCGCTGCGCTTATCCGGTA

3497 ACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGCGGTGCTAC

3597 AGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGT

3697 AGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTT

EagI (3886)

PacI (3866)

SwaI (3875)

NotI (3885)

3797 TGATCTTTTCTACGGGTCTGACGCTCAGTGGAAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGCCGCAA

3896 TAAAATATCTTTATTTTATTACATCTGTGTGTTGTTTTTTGTGTGAATCGTAACATACTCTCCATCAAAAACAAACGAAACAAAACAAACTA

3996 GCAAAATAGGCTGTCCCAAGTCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA