



100

PvuI (7)
SgfI (6)
EcoNI (96)

1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTCGGCAATTGAACGGGTGCCTA
 101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGTCCGCCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245)
Bsu36I (291)

Psp1406I (203)
PvuII (239)
EcoNI (287)

201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACCGCGCCCGCCGCTACCTGAGGCC
 301 GCCATCCACGCGGTTGAGTCGCGTTCTGCCGCTCCCGCCTGTGGTGCCTCCTGAACTGCGTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMI (441)
NaeI (441)

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGTCTTTGTTTCGTTT

KasI (535)
AgeI (552)
SphI (560)

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGCGCCTACCTGAGATCACCGGTCAGCATGCAGGATGAAGATGGGTATATCACTTTAAACATCAA
1▶ M Q D E D G Y I T L N I K

NcoI (680)
BstXI (680)

601 GCCCCGAAACAAGCTCTCAGCTCAGCGAACCTGCCTCTTCTGGTGGCGTGTGATGGCTTTAGTTCTGCTGATCTCATCCATGGGGCTGGTTGTTGGA
 13▶ P R K Q A L S S A E P A S S W W R V M A L V L L I S S M G L V V G

MscI (785)

701 CTCGTGGCTCTGGGGATCATGTCGGTACACAGCAAAAGTATCTACTGGCGGAGAAGGAAAATCTCTCAGCGACTCTGCAACAATGGCCAAAGAAATCT
 47▶ L V A L G I M S V T Q Q K Y L L A E K E N L S A T L Q Q L A K K F

BstAPI (857)
DraIII (870)
NcoI (885)

801 GCCAAGAGTTGATTAGACAATCAGAAATTAAGACAAAGAGCAGCTTTTGGCACAAGTGCAGCCCTGCGCCACGAAGTGGAGATACCATGGAGATAGTTG
 80▶ C Q E L I R Q S E I K T K S T F E H K C S P C A T K W R Y H G D S C
 901 CTACGGGTTCTTTCAGGCGTAACCTAACATGGGAAGAGAGCAAGCAGTATTGCACTGAGCAGAATGCAACACTTGTGAAGACTGCCAGCCAGAGCACCTG
 113▶ Y G F F R R N L T W E E S K Q Y C T E Q N A T L V K T A S Q S T L
 1001 GACTACATTGCAGAAAGGATTACTTTCAGTCCGTTGGATTGGATTATCACGCCAGAACTCTAAGAAAGACTGGATGTGGGAGGATAGCTCAGTTCTTCGCA
 147▶ D Y I A E R I T S V R W I G L S R Q N S K K D W M W E D S S V L R

VspI (1108)
AseI (1108)

1101 AGAACGGGATTAATCTTTCTGGGAATACAGAAGAAAACATGAATTGTGCTTATCTTCATAATGGAAAAATCCATCCAGTTCTGTAAAGAGAGACATTA
 180▶ K N G I N L S G N T E E N M N C A Y L H N G K I H P A S C K E R H Y

MscI (1299)
NheI (1293)

1201 CTTAATATGTGAGAGAAATGCTGGCATGACAAGAGTGGACCAACTGCTTTAATGCAGAAGGATGGACAGGATGTCAGATAAGTCTTGATCATGCTAGCT
 213▶ L I C E R N A G M T R V D Q L L •
 1301 GGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAATAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTT

HpaI (1431)

1401 ATTTGTAACCATTATAAGCTGCAATAAACCAAGTTAACCAACAACAAATTGCATTCAATTTATGTTTCAGGTTTCAGGGGGAGGTGGGAGGTTTTTAAAGC

EcoRI (1527)

1501 AAGTAAACCTCTACAAATGTGGTATGGAATTTAAAATACAGCATAGCAAACTTTAACCTCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGAT
 1601 GAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGTATTTTCCAAGG

SspI (1766)
SwaI (1780)

1701 TTTGAACTAGCTCTTCATTTCTTTATGTTTTAATGCAGTACCTCCACATTCCTTTTTAGTAAAATATTCAGAAATAATTTAAATACATCATTGCAA

EcoO109I (1841)

1801 TGAAAATAAATGTTTTTATTAGCAGAATCCAGATGCTCAAGGCCCTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGAACCTTTA
 1901 ATAGAAATTTGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTACTTGGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTC
141▶ • N R T Y K L P I L E E I T T K V L K G N

SacI (2041)
BstXI (2070)

2001 ATCTCAATGAGCACAAGCAGTCAAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAG
 119▶ M 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
 2101 AGTAGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCAATGGCAATGGCTTACGACAGACAGTGCCTGCC
 86▶ 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

StuI (2205)
Eco147I (2205)

2201 AATGTAGGCTCAATGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTGATGGCCGCCGACATGGTGTCTGTTGCTCATAGAGCATGGTGATC
 53▶ I 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

BspHI (2355)

2301 TTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGCTTTCATGATGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATA
 19▶ K E T A V E V L E L D Q Q S I N F T K M

VspI (2413)
 AseI (2413)

2401 TACTATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCAGC TTATCTGACGGTTCACATAAACGAGCTCTGCTTATATAGACCTCCCACGGT

SacI (2470)

2500 ACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAACAAACTCCCATTGACGTCA

SpeI (2568)

2599 ATGGGGTGGAGACTTGGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATA

SnaBI (2696)
 Eco105I

2699 CGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACT

NdeI (2801)

2799 TGGCATATGATACTTGTACTGCTCAAGTGGGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGA

PstI (2980)
 SdaI (2979)PacI (2987)

2899 ACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTCAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCTGCAGGTTAA TTAAG

PciI (2997)
 BspLU11I (2997)

2997 AACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGGCCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAA

3097 ATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTTCCCTGGAAGCTCCCTCGTGGCTCTCCTGTTCCGACCT

3197 GCCGCTTACCGGATACCTGTCCGCCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCAGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCG

ApaLI (3311)

3297 TCCAAGCTGGGCTGTGTGCACGAACCCCCGTTACGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAAGTCCAACCCGGTAAGACACGACTTAT

3397 CGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAG

3497 AAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGT

3597 GGTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAAACGAAA

EagI (3747)
 PacI (3727) SwaI (3736) NotI (3746)

3697 ACTCAGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCGCAATAAAATATCTTTATTTTATTACATCTGTGTGTTGGTTTT

3797 TTGTGTGAATCGTAACATAACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAA

3897 CATTCTCTATCGAA