



PvuI (7)
SgfI (6)
1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTCGGCAATTGAACGGGTGCCTA
101 GAGAAAGTGGCGCGGGTAAACTGGAAAAGTATGTCGTGACTGGCTCCGCTTTTTCCCGAGGTTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245)
Psp1406I (203) **PvuII (239)** **Bsu36I (291)**
201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACCGCGCCGCCCTACCTGAGGCC
301 GCCATCCACGCCGGTTGAGTCCGCTTCTGCCGCTCCCGCTGTGGTGCCTCCTGAAGTGCCTCCCGCTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTCCTGACCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

XcmI (560)
BstEII (555)
AgeI (552) **NcoI (560)** **BsrBI (590)**
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTCACCATGGCTACCCTGGTTGTAACAAGCTCGGAGCGGGAGT
1 M A T L V V N K L G A G V

PvuII (629)
601 AGACAGTGGCCGGCAGGGCAGCCGGGGACAGCTGTAGTGAAGGTGCTAGAGTGTGGAGTTTGTGAAGATGTCTTTCTTTGCAAGGAGACAAAGTTCCC
13 D S G R Q G S R G T A V V K V L E C G V C E D V F S L Q G D K V P

MscI (714) **SapI (761)**
701 CGTCTTTTGTGGCCATACCGTCTGTCATGACTGTCTACTCGCTACCTTTCATGGAAGAGCAATCCGTTGCCATTGATCGACAAGTAACAG
47 R L L L C G H T V C H D C L T R L P L H G R A I R C P F D R Q V T

AvrII (801)
801 ACCTAGGTGATTGAGTGTCTGGGATTGAAAAAATTTGCTTTATTGGAGCTTTTGAACGACTGCAGAAATGGGCCTATTGGTCAGTATGGAGCTGC
80 D L G D S G V W G L K K N F A L L E L L E R L Q N G P I G Q Y G A A

EcoRV (915) **DraIII (978)**
901 AGAAGAATCCATTGGGATATCTGGAGAGAGCATCATTCTGTGATGAAGATGAAGCTCACCTTGCCTCTGTATATTGCACTGTGTGCAACTCATTG
113 E E S I G I S G E S I I R C D E D E A H L A S V Y C T V C A T H L
1001 TGCTCTGAGTGTCTCAAGTTACTATTCTACAAGACATTAGCAAAGCACAGGCGAGTTCCTCTAGCTGATAAACCTCATGAGAAAATATGTGCTCTC
147 C S E C S Q V T H S T K T L A K H R R V P L A D K P H E K T M C S

SphI (1110)
DraIII (1102)
BstAPI (1101)
1101 AGCACCAGGTGCATGCCATTGAGTTTGTGCTTGGAAAGAAGTTGTCAAACCTAGCCCACTCATGTGCTGTCTGCAAGAATATGGAAAACACCAGGG
180 Q H Q V H A I E F V C L E E G C Q T S P L M C C V C K E Y G K H Q G
1201 TCACAAGCATTGAGTATTGGAACAGAACTAATCAGATCCGAGCATCAATTTAGATATGGCTCACTGCATACGGACCTTACAGAGGAAATCTCAGAT
213 H K H S V L E P E A N Q I R A S I L D M A H C I R T F T E E I S D

BspLU11I (1386)
1301 TATCCAGAAAATTAGTTGGAATTGTGCAGCACATTGAAGGAGGAGAACAATCGTGAAGATGGAATTGGAATGGCTCACACAGAATGTACCAGGGA
247 Y S R K L V G I V Q H I E G G E Q I V E D G I G M A H T E H V P G

BstAPI (1402)
1401 CTGCAGAGAATGCCCGGTGATGATTGAGCTTATTTTATGATCTACATGAAACTCTGTGCTGCAAGAAGAAATGGCTCTAAGTGTGTTGATGCTCA
280 T A E N A R S C I R A Y F Y D L H E T L C R Q E E M A L S V V D A H
1501 TGTTGCTGAAAAATTGATTTGGCTCAGGCAGCAACAAGAAGATATGACTATTTTGTGTCAGAGGTTTCTGCAGCCTGCCCTCACTGTGAAAAGACTTTG
313 V R E K L I W L R Q Q Q E D M T I L L S E V S A A C L H C E K T L
1601 CAGCAGGATGATTGATAGATTGTCTGGCAAAACAGGAAATACAAGTTACTGGAACATTGCAGAAACAGCAGCAGCAGTTTACAGAAGTTGCAGATC
347 Q Q D D C R V V L A K Q E I T R L L E T L Q K Q Q Q F T E V A D
1701 ACATTGAGTTGGATGCCAGCATCCCTGTCACTTTTACAAGGATAATCGAGTTTACATTGGACCAAAAATGGAAATTCGGGTCGTTACGTTAGATTGGA
380 H I Q L D A S I P V T F T K D N R V H I G P K M E I R V V T L G L D

EcoRI (1843)
1801 TGGTGTGAAAAACTACTATCTTGTAAAGTTAAAACAGGATGAATTCATGCAGCCCACTTCCAACAATTGGTTTTAACGTGAAAACTGTAGAATATAAA
413 G A G K T T I L F K L K Q D E F M Q P I P T I G F N V E T V E Y K
1901 AATCTAAAATTCATATTTGGGATGTAGGTGAAAAACAAAATTAAGACCATTGTGAAAACATTATTACCTCAATACTCAAGCTGTTGTTGTTGTTGAG
447 N L K F T I W D V G G K H K L R P L W K H Y Y L N T Q A V V F V V

HpaI (2052)
2001 ATAGCAGTCATAGAGACAGAATTAGTGAAGCACACAGCGAAGTTGCAAAGTTGTTAACGGAAAAAGAACTCCGAGATGCTCTGCTCCTGATTTTTGCTAA
480 D S S H R D R I S E A H S E L A K L L T E K E L R D A L L L I F A N
2101 CAAACAGGATGTTGCTGGAGCACTGTCAGTAGAAGAAATCACTGAACTACTCAGTCTCCATAAATTATGCTGTGGCCGTAGCTGGTATTACAGGGCTGT
513 K Q D V A G A L S V E E I T E L L S L H K L C C G R S W Y I Q G C

MscI (2293)
NheI (2287)
2201 GATGCTCGAAGTGGTATGGGACTGTATGAAGGGTTGGACTGGCTCTCACGGCAACTTGTAGTCTGGAGTATTGGATGTTGCTTGGCTAGCTAGCTGGCCAG
547 D A R S G M G L Y E G L D W L S R Q L V A A G V L D V A •
2301 ACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTATTTGT

2401 **HpaI (2425)**
AACCATTATAAGCTGCAATAAACCAAGTTAACACAACAATTGCATTATTTTATGTTTCAGGTTCCAGGGGGAGGTGTGGGAGGTTTTTTAAAGCAAGTAA

2501 **EcoRI (2521)**
AACCTCTACAAATGTGGTATGGAATCTAAAATACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAA
GGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTCATGGAGTTAAGATATAGTGTATTTTCCCAAGGTTTGAA

2701 **SapI (2703)** **SspI (2760)** **SwaI (2774)**
CTAGCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCCACATTCCTTTTTAGTAAAATATTTCAGAAATAATTTAAATACATCATTGCAATGAAAA

2801 **EcoO109I (2835)**
TAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAA

2901 ATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTTCATCTCA
141 N R T Y K L P I L E E I T T K V L K G N M E

3001 **SacI (3035)** **BstXI (3064)**
ATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCCTGATGGATCTGCCACCTCATCAGAGTAGG
117 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 Y P

3101 **StuI (3199)**
GGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCCGTTGCTCAGCAGACCCAATGGCAATGGCTTACGACAGACAGTGCCTGCCAATGTA
84 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 I Y

3201 GGCCTCAATGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTGATGGCCGCCGACATGGTGTCTTGTCTCATAGAGCATGGTGTCTTCTCA
51 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 K E

3301 **BbsI (3345)** **XmnI (3341)**
GTGGGCCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGTCTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTAT
17 T A V E V L E L D Q Q S I N F T K M

3401 **AseI (3407)** **SacI (3464)**
GCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCATAACGAGCTCTGCTTATATAGACCTCCCACCGTACACGCC

3501 **SpeI (3562)**
TACCGCCATTTCGCTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAACAACCTCCATTGACGTCAATGGGGTG

3601 **SnaBI (3690)**
GAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTAAGTCCAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATG

3701 **NdeI (3795)**
TACTGCCAAGTAGGAAAGTCCCATAAGGTCATGTAAGTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGGCTACTTGGCATAT

3801 GATACACTTGATGTAAGTGGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGAAAGTCCCTATTGGCGTTACTATGGGAACATACGT

3901 **Pacl (3981)** **SdaI (3973)** **BspLU11I (3991)**
CATTATTGACGTCAATGGGCGGGGCTGTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCTCGCAGGTTAAATAAGAACATGTGAG
CAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGCCGCTTGTGGCGTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAATAATCGACGCTC

4101 AAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCTGGAAGCTCCCTCGTGGCTCTCCTGTTCCGACCTGCCGCTTACC

4201 GGATACCTGTCCGCTTTCTCCCTCGGGAAGCGTGGCGCTTTCTCATAGCTCAGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCAAGCTGG

4301 **ApaLI (4305)**
GCTGTGTGCACGAACCCCGTTGAGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGC

4401 AGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTA

4501 TTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAACACCGCTGGTAGCGTGGTTTTTTTG

4601 TTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTCTACGGGCTGACGCTCAGTGGAAACGAAAACCTCACGTTA

4701 **EagI (4741)** **Pacl (4721)** **SwaI (4730)** **NotI (4740)**
AGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGCAATAAAATATCTTTATTTTATTACATCTGTGTGGTTTTTTGTGTGAAT

4801 CGTAACTAACATACGCTCTCCATCAAACAACAAACGAAACAACAACTAGCAAAATAGGCTGTCCCAAGTGCAGGTGCCAGAACATTTCTCTA

4901 TCGAA