



PvuI (7)
SgfI (6)
 1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTCGGCAATTGAACGGGTGCCTA
 101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGACTGGTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) **HindIII (245)** **Bsu36I (291)**
 201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACGCGCCCGCCGCTACCTGAGGCC
 301 GCCATCCACGCGGGTTGAGTCGCGTTTCTGCCGCCTCCCGCTGTGGTGCCTCCTGAAGTGCCTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMI (441)
NaeI (441)
 401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTAACTCTACGCTTTTGTTCGTTT

NcoI (560)
BstEII (555)
KasI (535) **AgeI (552)**
 501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCGCTACCTGAGATCACCGGTACCATTGGTGAATGAATACAAGAGAATTGTTCTGCTGAGAGG
 1 M V N E Y K R I V L L R G

MscI (647) **BsaBI (655)**
 601 ACTTGAATGTATCAATAAGCATTATTTAGCTTATTTAAGTCATTGCTGGCCAGAGATTTAAATCTGGAAGAGACAACCAAGAGCAATACACCACGATT
 13 L E C I N K H Y F S L F K S L L A R D L N L E R D N Q E Q Y T T I
 701 CAGATTGCTAACATGATGGAAGAGAAATTTCCAGCTGATTCTGGATTGGGCAAAGTATTGAGTTTGTGAAGAAGTACCAGCTCTAGAAAACGAGCTG
 47 Q I A N M M E E K F P A D S G L G K L I E F C E E V P A L R K R A

EcoO109I (867) **PciI (899)**
BstAPI (865) **BspLU11I**
 801 AAATTCCTAAAAAGAGAGATCAGAAGTAAACAGGAGAAACATCACTGGAATAAATGGTCAAGAAGCAGGTCCTGCAACACCTACATCAACTACAAGCCA
 80 E I L K K E R S E V T G E T S L E K N G Q E A G P A T P T S T T S H
 901 CATGTTAGCATCTGAAAGAGGCGAGACTTCTGCAACCCAGGAAGACTTCCACAGCTCAGCGGGGACTTCCACAGCTCAGGCAGGACTTCCACAGCT
 113 M L A S E R G E T S A T Q E E T S T A Q A G T S T A Q A R T S T A
 1001 CAGCGGAGGACTTCCACAGCTCAGGAGGGGACTTCCACAGCCAGAAAAGAAAAAGTATGAGAGAAGAAGAGACTGGAGTGAAAAAGAGCAAGGGCGCTA
 147 Q A R T S T A Q E G T S T A Q K R K S M R E E E T G V K K S K A A
 1101 AGGAACAGATCAGCCTCCCTGTTGTGAAGAACCACAGCCATGTGCCAGTCACCAATACTCCACAGCTCATCTTGGCTTCATTAACATTCCTTCGGC
 180 K E P D Q P P C C E E P T A M C Q S P I L H S S S S A S S N I P S A

SspI (1231)
 1201 TAAGAACCAAAAATCACAACCCAGAAATCAGAAATTCCAGAGGTGCTGTTCTCCACTCAGAGCCCCTGACAGTGATGGTGCTCACTGCAACAGACCCA
 213 K N Q K S Q P Q N Q N I P R G A V L H S E P L T V M V L T A T D P
 1301 TTTGAATATGAATCACCAGAACATGAAGTAAAGAATGCTTACAGTACAGTGGTACAGTACAGTACAGTACAGTACAGTACAGTACAGTACAGTACAGT
 247 F E Y E S P E H E V K N M L H A T V A T V S Q Y F H V K V F N I N
 1401 TGAAAAGAAAAGTTCAAAAAAAGAAATTTATCATCATATCCAATTACTTTGAGAGCAAAGGCATCCTGGAGATCAATGAGACTTCTCTGTGTAGAGGC
 280 L K E K F T K K N F I I I S N Y F E S K G I L E I N E T S S V L E A

BglII (1562)
 1501 TGCTCCTGACCAATGATTGAAGTGCCCAACAGTATTATCAGAAATGCAATGCAAGTCTAAGATCTGTGATATTCAAAGGGTACTTCTGGAGCAGTG
 313 A P D Q M I E V P N S I I R N A N A S P K I C D I Q K G T S G A V
 1601 TTCTATGGAGTGTTCATTACACAAGAAAACAGTGAACCGAAAAGAACACAATCTATGAAATAAAGATGGTTCAGGAAGCATAGAAGTGGTGGGGAGTG
 347 F Y G V F T L H K K T V N R K N T I Y E I K D G S G S I E V V G S
 1701 GAAATGGCACAACATCAACTGCAAGGAAGGAGATAAACTCCACCTCTTCTGCTTTCACCTGAAAACAATTGACAGGCAACCAAAGTTAGTGTGTGGAGA
 380 G K W H N I N C K E G D K L H L F C F H L K T I D R Q P K L V C G E

EcoRV (1815) **BsaBI (1861)** **XcmI (1877)**
 1801 ACACAGTTTCATCAAGATATCAAAGAGAGGAAATGTACCAAAGGAGCCTGCTAAGGAAGAAGATCACCATCATGGTCCCAAACAGTGTGGTGTGAAA
 413 H S F I K I S K R G N V P K E P A K E E D H H H G P K Q V M V L K

NdeI (1916)
 1901 GTAACAGAACCATTATACATATGACCTGAAAGAGGATAAAAAGATGTTTCATGCTACCGTGGCTACTGAAACTGAGTTCCTCAGAGTGAAGTTTTTGA
 447 V T E P F T Y D L K E D K R M F H A T V A T E T E F F R V K V F D
 2001 CAGCTCTAAAGAGCAAGTTCATCCCAAGAAATATCATTGCCATATCAGATTATTTGGGTGCAATGGGTTTCTGGAGATATACAGAGCTTCTGTGTCTC
 480 T A L K S K F I P R N I I A I S D Y F G C N G F L E I Y R A S C V S

Psp1406I (2107)
 2101 TGATGTGAACGTTAATCCAACAATGGTTATCTCAAATACACTGAGACAAAAGAGCTAATGCAACTCCTAAAATTTCTTATCTTTCTCACAAGCAAGGGGG
 513 D V N V N P T M V I S N T L R Q R A N A T P K I S Y L F S Q A R G

ScaI (2216)
 2201 ACATTTGTGAGTGGAGTACTTAGTAAATAAGAAAACGGAGAGGAATAAATTCATTACTATGGAATTGGAGATGATACAGGGAAAATGGAAGTGGTGG
 547 T F V S G E Y L V N K K T E R N K F I Y Y G I G D D T G K M E V V
 2301 TTTATGGAAGACTCACCAATGTCAAGGTGTAACCCAGGAGTAACTAAGACTTGTCTGCTTTGAAATTGACTTCCACTGAAGATGGGTGGCAGCTGAGGTC
 580 V Y G R L T N V R C E P G S K L R L V C F E L T S T E D G W Q L R S

NheI (2462)
BstXI (2459) **MscI (2468)**
 2401 TGTAAGGCACAGTTACATGCAGGTCATCAATGCTAGAAAAGTGAAGGAAAGCCACTCAACCCAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTT
 613 V R H S Y M Q V I N A R K •

HpaI (2600) **EcoRI (2696)**
 2601 GTTAAACAACAATTGCATTCTTTTATGTTTCAGGTTCAAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAAACCTCTACAATGTGGTATGGAAT

2701 TCTAAAATACAGCATAGCAAACTTAACCTCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCC
←

2801 AATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGTATTTTCCAAGGTTTGAAGTACTGCTCTTCATTTCTTTATGTTTT

2901 AAATGCACTGACCTCCACATTCCCTTTTTAGTAAAATATTCAGAAAATATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATC

EcoO109I (3010)

3001 CAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTC

3101 TAGCTTTAGTTTCCCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTTCATCTCAATGAGCACAAAGCAGTCAGGAGCAT
+11 • 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 (3210) BstXI (3239)

3201 AGTCAGAGATGAGCTCTCGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTG
109 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

3301 AAAGTCTTCTGCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATG
76 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 I H V A S I

3401 ATCTCCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGTGTTGTCTCATAGAGCATGGTGTCTTCTCAGTGGCGACCTCCACCAGCTCCAGAT
42 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 E V L E L D

BspHI (3524) VspI (3582)
AseI (3582)

3501 CTGCTGAGAGATGTTGAAGGCTTTCATGATGGCCCTCTATAGTGAGTCTGATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGC
9 Q Q S I N F T K M ←

SacI (3639)

3601 GTGGATGGCGTCTCCAGCTTATCTGACGGTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGG

3700 CGGAGTTGTTACGACATTTTGGAAAGTCCC GTT GATTTACTAGTCAAACAAACTCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGT
←

SpeI (3737)

3799 CAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCCA
←

SnaBI (3865)
Eco105I (3865)

3899 TAAGTTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGATGTACTGCCAAG
←

NdeI (3970)

3999 TGGGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCAATTATTGACGTCAATGGGCGGG
←

4099 GGTCGTTGGGCGGTCAGCCAGGCGGGCCATTTACCGTAAAGTTATGTAACGCCCTGCAGGTTAA TTAAGAACATGTGAGCAAAGGCCAGCAAAGGCCA
←

PstI (4149) SdaI (4148) PacI (4156) PciI (4166) BspLU11I (4166)

4197 GGAACCGTAAAAAGCCGCTTGGTGGCGTTTTTCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCC
←

4297 GACAGGACTATAAAGATACCAGGCGTTTCCCCCTGGAAGTCCCTCGTGCGCTCTCTGTTCCGACCTGCCGTTACCGGATACCTGTCCGCTTTTCTC
←

4397 CCTTCGGGAAGCGTGGCGTTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCTGCTCCTCAAGCTGGGCTGTGTGCACGAACCCCCG
←

4497 TTCAGCCCAGCCGCTGCGCTTATCCGTAACATATCGTCTTGTAGTCCAAACCGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGAT
←

4597 TAGCAGAGCGAGGTATGTAGCGGTGTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTG
←

4697 AAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGTTTTTTGTTTGAAGCAGCAGATTACGC
←

4797 GCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAG
←

EagI (4916)
NotI (4915)

4897 TTAATTAACATTTAAATC AGCGGCCGAATAAAATATCTTTATTTTATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCC
←

4997 ATCAAAACAAAACGAAACAAAACAAACTAGCAAATAGGCTGTCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA
←