



PvuI (7)
SgfI (6)
MfeI (82)

1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
 101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203)
HindIII (245)
Bsu36I (291)

201 GTGAACGTTCTTTTTCGCAACGGGTTTGGCCGAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACCGCGCCCGCCGCTACCTGAGGCC
 301 GCCATCCACGCGGTTGAGTGCAGTTCGCCGCTCCCGCCTGTGGTGCCTCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)

401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

KasI (535)
BstEII (555)
AgeI (552)
NcoI (560)
Eco47III (573)

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCGCTA CCTGAGATCACCGGTACCATTGGCGCGCCAGCGTCTGGGCGAGCTGTTGGTGCCT
 1 M A R P A L L G E L L V L

SacII (632)

601 GCTACTGTGGACGCCACCGTGGGCCAAGTTGCCGCGGCCACAGAAAGTTCAGCCACCTGTGACGAATTTGAGCGTCTGTGCGAAAATCTCTGCACGATA
 13 L L W T A T V G Q V A A A T E V Q P P V T N L S V S V E N L C T I
 701 ATATGGACGTGGAGTCTCTCTGAAGGAGCCAGTCCAAATTGCACCTCTCAGATATTTAGTCACTTTGATGACCAACAGGATAAGAAAATTGCTCCAGAAA
 47 I W T W S P P E G A S P N C T L R Y F S H F D D Q Q D K K I A P E

PstI (841)

801 CTCATCGTAAAGAGGAATTACCCTGGATGAGAAAATCTGTCTGCAGGTGGGCTCTCAGTGTAGTGCCAAATGAAAGTGAAGGCTAGCCCTTTGGTGAA
 80 T H R K E E L P L D E K I C L Q V G S Q C S A N E S E K P S P L V K
 901 AAAGTGCATCTCACCCCTGAAGGTGATCCTGAGTCCGCTGTGACTGAGCTCAAGTGCATTTGGCATAACCTGAGCTATATGAAGTGTCTCTGGCTCCCT
 113 K C I S P P E G D P E S A V T E L K C I W H N L S Y M K C S W L P
 1001 GGAAGGAATACAAGCCCTGACACACACTATACTCTGACTATTGGTACAGCAGCCTGGAGAAAAGTCGTAATGTGAAAACATCTATAGAGAAGGTCAAC
 147 G R N T S P D T H Y T L Y Y W Y S S L E K S R Q C E N I Y R E G Q

Psp1406I (1153)

1101 ACATTGCTTGTCTTTAAATTGACTAAAGTGAACCTAGTTTTGAACATCAGAACGTTCAAATAATGGTCAAGGATAATGCTGGAAAATTAGGCCATC
 180 H I A C S F K L T K V E P S F E H Q N V Q I M V K D N A G K I R P S
 1201 CTGCAAAATAGTGTCTTTAACTTCTATGTGAAACCTGATCCTCCACATATTAACATCTTCTCTCAAAAATGGTGCCTTATTAGTGCAGTGGAGAAT
 213 C K I V S L T S Y V K P D P P H I K H L L L K N G A L L V Q W K N

SspI (1369)

1301 CCACAAAATTTAGAAAGCAGATGCTTAACTTATGAAGTGGAGGTCAATAACTCAAACCGACGACATAATTTTAGAGGTTGAAGAGGACAAATGCC
 247 P Q N F R S R C L T Y E V E V N N T Q T D R H N I L E V E E D K C

EcoRI (1401)
BstXI (1443)
Tth111I (1465)

1401 AGAATCCGAATCTGATAGAAACATGGAGGTTACAAGTTGTTTCCAACCTCCCTGGTGTCTTCCGCGACGCTGTCTACACAGTCAGAGTAAAGAGTCAAAAC
 280 Q N S E S D R N M E G T S C F Q L P G V L A D A V Y T V R V R V K T
 1501 AAACAAGTTATGCTTTGATGACAACAACTGTGGAGTATTGGAGTGAAGCAGAGATAGGTAAGGAGCAAACTCCACTTCTACACCACCATGTTA
 313 N K L C F D D N K L W S D W S E A Q S I G K E Q N S T F Y T T M L
 1601 CTCACCATTCCAGTCTTTGTCGAGTGGCAGTCATAATCCTCCTTTTACCTGAAAAGGCTTAAAGATCATTATTTCTCCAATTCCTGATCCTGGCA
 347 L T I P V F V A V A V I I L L F Y L K R L K I I I F P P I P D P G
 1701 AGATTTTTAAAGAAATGTTTGGAGACCAGAATGATGATACCCTGCACTGGAAGAAGTATGACATCTATGAGAAAACATCAAAGAAGAAACGGATTCTGT
 380 K I F K E M F G D Q N D D T L H W K K Y D I Y E K Q S K E E T D S V

MscI (1849)

NheI (1843)

1801 AGTGTGATAGAAAACCTGAAGAAAGCAGCTCCTTGATGGGAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGA
 413 V L I E N L K K A A P

HpaI (1981)
MfeI (1992)

1901 ATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAAGTAAACAACAACATTGCA

EcoRI (2077)

2001 TTCATTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTATGGAATTTCTAAAATACAGCATAGCA
 2101 AAACTTTAACTCCAATCAAGCCTCTACTTGAATCCTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTG
 2201 CAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGTATTTCCCAAGGTTTGAAGTACTAGCTCTTCAATTTCTTATGTTTTAAATGCACTGACCTCCAC

SspI (2316)
SwaI (2330)
EcoO109I (2391)

2301 ATTCCTTTTTAGTAAAAATTCAGAAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTC
 2401 ATAATATCCCCAGTTTAGTGTGGACTTAGGGAACAAAGGAACCTTAAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGT
 2501 ACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCATTCTCAATGAGCACAAGCAGTCAAGGAGCATAGTCAGAGATGAGCTCTCT
 136 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 D S I L E R
 141 • N R T Y

BstXI (2620)

2601 GCACATGCCACAGGGGCTGACCACCTGATGGATCTGCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTG
 103 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 F D K Q G N

2701 CTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGTTCC
69 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 I E G T K T R **StuI (2755)** **XmnI (2897)**

2801 TGATGGCCGCCCCGACATGGTGTCTTGTCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCTGCTGAGAGATGTTGAA
36 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 Q Q S I N F

BspHI (2905) **BbsI (2901)** **AseI (2963)**

2901 GGCTTTCATGATGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCAGC T
3 T K M

3001 TATCTGACGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCCACCCTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTT

SpeI (3118)

3101 GGAAAGTCCC GTT GATTACTAGTCAAACAAACTCCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCTGAGTCAAACCGCTATCCACGCCCA

SnaBI (3246)

3200 TTGATGTA CTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTA CTGCCAAGTAGGAAAGTCCCATAAGGTCATGTA CTGGGCAT

NdeI (3351)

3300 AATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCTACTTGCCATATGATACACTTGATGTA CTGCCAAGTGGGCAGTTTACCGTAAATA

3400 CTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTGAGCCA

PstI (3530) **SdaI (3529)** **PacI (3537)** **BspLU111 (3547)**

3500 GGGCGGCCATTTACCGTAAGTTATGTAACGCTGCAGGTTAA TTAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGGCCCGC
3598 TTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCAAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAGATACT
3698 AGGCGTTTTCCCTGGAAGCTCCCTCGTGCCTCTCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCT

ApaLI (3861)

3798 TTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTACGCCGACCGCTGCGCC
3898 TTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAG
3998 GCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAA
4098 AAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAA

PacI (4277) **SwaI (4286)** **NotI (4296)**

4198 GAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AG

EagI (4297)

4298 CGCCGCAATAAAATATCTTTATTTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAA
4398 AACAAACTAGCAAATAGGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA