



PvuI (7)
SgfI (6) 1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
MfeI (82) EcoNI (96)

101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGTATGCTGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) **HindIII (245)** **Bsu36I (291)**
201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACAGCGCCCGCCCTACCTGAGGGCC
EcoNI (287)

301 GCCATCCACGCGGTTGAGTCGCGTTTCTGCCGCTCCCGCCTGTGGTGCTCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCGCTACCTAGACTCAGCCGGCTCTCCACGCTTGGCTGACCCTGCTTGTCTCAACTCTACGTCTTTGTTTCGTTT

NcoI (560)
BstEII (555)
AgeI (552) **XcmI (590)**
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCCCTACCTGAGATCACCGGTCACCATGGGAAACAGCTGTTACAACATAGTAGCCACTCTGTT
1 M G N S C Y N I V A T L L

BamHI (636)
601 GCTGGTCTCAACTTTGAGAGGACAAGATCATTGCAGGATCCTGTAGTAAGTCCCAGCTGGTACATCTGTGATAATAACAGGAATCAGATTTGCAGT
13 L V L N F E R T R S L Q D P C S N C P A G T F C D N N R N Q I C S

EcoO109I (739) NdeI (750)
701 CCCTGTCCTCCAATAGTTTCTCCAGCGCAGGTGGACAAAGGACCTGTGACATATGCAGGCGAGTAAAGGTGTTTTCCAGACCAGGAAGGAGTGTCTCT
47 P C P P N S F S S A G G Q R T C D I C R Q C K G V F R T R K E C S

801 CCACCAGCAATGCAGAGTGTGACTGCACTCCAGGGTTTCACTGCTGGGGCAGGATGCAGCATGTGTGAACAGGATTGTAACAAGTCAAGAACTGAC
80 S T S N A E C D C T P G F H C L G A G C S M C E Q D C K Q G Q E L T

Sall (959)
901 AAAAAAGGTTGTAAAGACTGTTGCTTTGGACATTTAACGATCAGAAACGTGGCATCTGTCGACCCTGGACAACTGTTCTTTGGATGGAAAGTCTGTG
113 K K G C K D C C F G T F N D Q K R G I C R P W T N C S L D G K S V

Tth111I (1024)
1001 CTTGTGAATGGGACGAAGGAGAGGGACGTGGTCTGTGGACCATCTCCAGCCGACCTCTCTCCGGGAGCATCTCTGTGACCCCGCCTGCCCTGCGAGAG
147 L V N G T K E R D V V C G P S P A D L S P G A S S V T P P A P A R

Sall (1146) SapI (1158)
1101 AGCCAGGACTCTCCGAGATCATCTCCTTTCTTCTGCGCTGACGTGACTGCGTTGCTCTTCTGCTGTTCTTCTCAGCTCCGTTTCTCTGTTGT
180 E P G H S P Q I I S F F L A L T S T A L L F L L F F L T L R F S V V

1201 TAAACGGGGCAGAAAGAACTCCTGTATATATTCAAACAACCTTTATGAGACCAGTACAAACTACTCAAGAGGAAGATGGCTGTAGCTGCCGATTTCCA
213 K R G R K K L L Y I F K Q P F M R P V Q T T Q E E D G C S C R F P

MscI (1359)
NheI (1353)
1301 GAAGAAGAAGAAGGAGGATGTGAACTGTGAAATGGAAGTCAATAGGGCTGTTGGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAAC
247 E E E E G G C E L •

HpaI (1491)
1401 CACAAC TAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAGTTAAACAAC

MfeI (1502) **EcoRI (1587)**
1501 ACAAATTGCATTCATTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTATGGAATTTAAAATA
1601 CAGCATAGCAAACTTTAACCTCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGCTGTTGCCAATGTGCAT

SapI (1769)
1701 TAGCTGTTTGAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGTATTTTCCCAAGGTTTGAAGTACTAGCTCTTCATTTCTTTATGTTTAAATGCACT

SspI (1826) **SwaI (1840)**
1801 GACCTCCACATTCCTTTTATGTAATAATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTC

EcoO109I (1901)
1901 AAGGCCCTTCATAATATCCCCAGTTTAGTGTGGACTTAGGGAACAAGGAACCTTTAATAGAAATTTGACAGCAAGAAAGCGAGCTTCTAGCTTTAG
141 •

2001 TTCCTGGTGTACTTGAGGGGATGAGTTCTCAATGGTGGTTTTGACCAGCTTGCCATTCATCTCAATGAGCACAAGCAGTCAGGAGCATAGTCAGAGA
139 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 D S I

SacI (2101) **BstXI (2130)**
2101 TGAGCTCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAAAGTCCTT
106 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 F D K

StuI (2265)
2201 CTGCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCCAGCAGACAGTACCCTGCAATGAGGCTCAATGTGGACAGCAGAGATGATCTCCCA
73 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 I E G

2301 GTCTTGGTCTGATGGCCGCCCCGACATGGTGTCTGTTGCTCCTCATAGAGCATGGTGTCTTCTCAGTGGCGACTCCACCAGCTCCAGATCCTGCTGAG
39 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 Q Q S

BbsI (2411) **XmnI (2407)** **AseI (2473)**
2401 AGATGTTGAAGGCTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGATGGC
6 I N F T K M

2501 GTCTCCAGCTTATCTGACGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTT
SacI (2530)

2601 ACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAACAAACTCCATTGACGTCAATGGGTGGAGACTTGAAATCCCGTGAGTCAAACCGCTAT
SpeI (2628)

2701 CCACGCCATTGATGTAAGTCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCCATAAAGTCATGT
SnaBI (2756)

2801 ACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCAGTTTA
NdeI (2861)

2901 CCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTACTATGGGAACATACGTCAATTATTGACGTCAATGGGCGGGGTCGTTGGGC

3001 GGTACGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCTGCAGGTTAATTAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAA
PacI (3047)
PstI (3040)
SdaI (3039)
BspLU11I (3057)

3101 GGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAA

3201 AGATACCAGGCGTTTCCCCTGGAAGCTCCCTCGTGCGCTCTCTGTCCGACCTGCCGCTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCG

3301 TGGCGTTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTACGCCGACCG
ApaLI (3371)

3401 CTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGG

3501 TATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCT

3601 TCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTGTGCAAGCAGCAGATTACGCGCAGAAAAAAGG

3701 ATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTT
PacI (3787) SwaI (3796)

3801 AAATCAGCGGCCGAATAAAATATCTTTATTTTATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAAAC
EagI (3807)
NotI (3806)

3901 GAAACAAAACAACTAGCAAATAGGCTGTCCCGAGTCAAGTGCAAGTGCCAGAGTCCAGAACATTTCTCTATCGAA