



PvuI (7)
SgfI (6) 1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
MfeI (82) **EcoNI (96)**
101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGACTGGCTCCGCCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) 201 GTGAACGTTCTTTTTTCGCAACGGGTTTCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACCGCCGCCGCCCTACCTGAGGCC
HindIII (245) **Bsu36I (291)**
EcoNI (287)
301 GCCATCCACGCCGGTTGAGTGCAGTCTGCCGCTCCCGCCTGTGGTGCCTCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCGGCTCTCCACGCTTGGCTGACCCTGCTTGTCTAACTCTACGTCTTTGTTTCGTTT
NgoMIV (441)

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCCTACCTGAGATCACCGGTC AACATGTGTGACCGGAACGGCGGGCGGCTGCGGCAGT
KasI (535) **AgeI (552)** **BspLU11I (560)**
1 M C D R N G G R R L R Q W
NgoMIV (688)

601 GCTGATCGAACAGATCGACAGCAGCATGTACCCGGGCTGATCTGGGAAAATGATGAGAAGACCATGTTCCGTATCCCCTGGAAGCATGCCGGCAAGCAG
XmaI (630) **SphI (684)**
13 L I E Q I D S S M Y P G L I W E N D E K T M F R I P W K H A G K Q
BsaBI (700) **BbrPI (789)**
701 GATTACAATCAGGAGGTGGACGCTTCCATCTTCAAGGCCTGGGCAGTTTTTAAAGGGAAGTTTAAAGAGGGAGACAAAGCTGAACCAGCCACGTGGAAGA
47 D Y N Q E V D A S I F K A W A V F K G K F K E G D K A E P A T W K
AgeI (851)

801 CGAGGTTACGCTGTGCTCTGAACAAGAGCCAGATTTTGAAGAAGTGACTGACCGGTCCCAGCTGGACATTTCTGAGCCATATAAAGTTTACCGAATTGT
80 T R L R C A L N K S P D F E E V T D R S Q L D I S E P Y K V Y R I V
901 CCCCGAGGAAGAACAAAAATGCAAGCTGGGCGTGGCACCTGCAGGCTGCATGAGCGAAGTTCTCTGAGATGGAGTGTGGCCGCTCAGAGATTGAGGAGCTG
113 P E E E Q K C K L G V A P A G C M S E V P E M E C G R S E I E E L
1001 ATCAAGGAACCTTCTGTGGATGAGTACATGGGTATGACCAAGAGGAGCCATCCCCACCAGAGGCTGCAGGAGCCAGATCCTCCTGACTGGTGGTCC
147 I K E P S V D E Y M G M T K R S P S P P E A C R S Q I L P D W W V

1101 AGCAGCCCAGTGCAGGCCTGCCACTGGTACCGGATATGCCGCCTATGACACACACCATTTCAGCTTTCTCCAGATGGTGCATCAGCTTCTACTACGGGGG
180 Q Q P S A G L P L V T G Y A A Y D T H H S A F S Q M V I S F Y Y G G
1201 CAAGCTGGTGGGCCAGGCCACCACCACCTGCCTTGAAGGCTGCGTCTCTCCCTGAGCCAGCCGGGGCTGCCTAAGTTGTATGGGCCGGATGGCCTGGAA
213 K L V G Q A T T T C L E G C R L S L S Q P G L P K L Y G P D G L E

1301 CCCGTGTGCTTTCCGACGGCCGACACCATCCCCAGTGAGCGGCAGAGGCGAGTACCCGGAAGCTGTTTGGGCACCTGGAACGTGGCGTGTACTGCACA
247 P V C F P T A D T I P S E R Q R Q V T R K L F G H L E R G V L L H
1401 GCAACCGCAAGGGCGTGTTCGTGAAGCGGCTGTGCCAGGGCCGCGTGTCTGCAGCGGCAACGCGGTGGTGTGCAAGGGCAGGCCCAACAAGCTGGAGCG
280 S N R K G V F V K R L C Q G R V F C S G N A V V C K G R P N K L E R
1501 GGACGAGGTGGTGCAGGCTTTGACACCAACAGTTCATCCGAGAGCTGCAGCAATTCTACGCCACCCAGAGCCGCTACCTGACAGCAGGGTGGTCTCTG
313 D E V V Q V F D T N Q F I R E L Q Q F Y A T Q S R L P D S R V V L

1601 TGCTTCGGGGAGGAGTTTCCGGACACTGTGCCCTTGGCTCCAAACTCATTCTGGTGCAGGTAGAGCAGCTGTATGCCAGGCAGCTGGTGGAGGAAGCGG
347 C F G E E F P D T V P L R S K L I L V Q V E Q L Y A R Q L V E E A
BspEI (1617) **XcmI (1640)** **XcmI (1676)**

1701 GCAAGAGCTGCGGTGCTGGCTCCCTGATGCCAGCCCTGGAGGAGCCCCAGCCGACCAGGCTTCCGCATGTTTCCGGATATCTGTACCTCACACCAGAG
380 G K S C G A G S L M P A L E E P Q P D Q A F R M F P D I C T S H Q R
EcoRV (1777) **BspEI (1773)**

1801 ACCCTTTTTAGAGAAAATCAACAGATCACCGTCTAAGCCTCAGTCCGGGCACCCACCTCGCTGAGCTCAAGCTAGCTCGACATGATAAGATACATTG
413 P F F R E N Q Q I T V •
1901 ATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTGAAATTTGTGATGCTATT
HpaI (2036) **MfeI (2047)**

2001 GCTTTATTTGTAACCATTATAAGCTGCAATAAACAAAGTAAACAACAACATTGCATTCATTTTATGTTTCAGGTTTCAGGGGAGGTGGGAGGTTTTTT
EcoRI (2132)
2101 AAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTTAAAAACAGCATAGCAAACTTTAACCTCCAAATCAAGCCTCTACTTGAATCCTTTTCTGA
2201 GGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGACGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGTATTTTCC

2301 CAAGGTTTGAAGTACTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTTAGTAAAATATTCAGAAAATAATTTAAATACATCAT
SspI (2371) **SwaI (2385)**

2401 TGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAGGAAC
EcoO109I (2446)

2501 CTTAATAGAAAATGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGC
141 N R T Y K L P I L E E I T T K V L K G

2601 CATTTCATCTCAATGAGCACAAGCAGTCAAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTC
121 N 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

2701 ATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTGACC
 88 D S 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
 2801 CTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGCTTGTGCTCATAGAGCATGG
 54 R G 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

BspHI (2960)
XmnI (2952)

2901 TGATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGTCTTCATGATGGCCCTCTATAGTGAGTCGTATTATACTATGC
 21 I K E T A V E V L E L D Q Q S I N F T K M

AseI (3018)

3001 CGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCAGC T TATCTGACGGTTCACATAACGAGCTCTGCTTATATAGACCTCCCA

SpeI (3173)

3101 CCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAAACAACTCCCATGACG
 3201 TCAATGGGGTGGAGACTTGAAATCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTA CTGCCAAAACCGCATCATCATGGTAATAGCGATGACTA

SnaBI (3301)

3301 ATACGTAGATGTA CTGCCAAGTAGGAAAGTCCCATAGGTCATGTA CTGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGT

NdeI (3406)

3401 ACTTGGCATATGATACACTTGATGTA CTGCAAGTGGGAGTTTACCGTAAATACTCCACCCATTGACGTCAATGAAAGTCCCTATTGGCGTACTATG

PacI (3592)

3501 GGAACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTACGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCTGCAGGTTAATTA

BspLU11I (3602)

3601 GAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGGTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAA
 3701 AATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACGAGCGTTTTCCCTGGAAGCTCCCTCGTGCGCTCTCTGTCCGACCC
 3801 TGCCGCTTACCGGATACCTGTCCGCTTTCTCCCTTCGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTG

ApaLI (3916)

3901 CTCCAAGCTGGGCTGTGTGCACGAACCCCGTTACGCCGACCGCTGCGCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGTAAGACACGACTTA
 4001 TCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTA
 4101 GAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAAACAAACCACCGCTGGTAGCGG
 4201 TGGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTACGGGGTCTGACGCTCAGTGAACGAA

EagI (4352)
PacI (4332) SwaI (4341) NotI (4351)

4301 AACTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCGAATAAAATATCTTTATTTTTCATTACATCTGTGTGTGGTTT
 4401 TTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAAATAGGCTGTCCCGAGTCAAGTGCAGGTGCCAGA
 4501 ACATTTCTCTATCGAA