



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

101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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

301 GCCATCCACGCGGTTGAGTCGCGTTCTGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
NaeI (441) 401 GGGCCTTTGTCCGGCGCTCCCTTGAGCGCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTCTCAACTCTACGTCTTTGTTTCGTTT

NcoI (560)
BstEII (555)
KasI (535) 501 TCTGTTCTGCGCGGTTACAGATCCAAGCTGTGACCGCGCGCTACCTGAGATCACCGGTCCACATGGACACAGAAAGTAATAGGAGAGCAAATCTTGCTCT AgeI (552) 1▶ M D T E S N R R A N L A L XcmI (697)

601 CCCACAGGAGCCTTCCAGTGTGCCTGCATTTGAAGTCTTGAAATATCTCCCAAGGAAGTATCTTCCAGCAGACTATTGAAGTCGGCCTCATCCCCACCA
13▶ P Q E P S S V P A F E V L E I S P Q E V S S G R L L K S A S S P P
701 CTGCATACATGGCTGACAGTTTTGAAAAAGAGCAGGAGTTCCTGGGGTAACCAAATCTGACTGCTATGATATGCCTTTGTTTGGAAACAGTTGTCT
47▶ L H T W L T V L K K E Q E F L G V T Q I L T A M I C L C F G T V V
801 GCTCTGTACTTGTATTTTACACATTGAGGGAGACATTTTTTTCATCATTTAAAGCAGGTTATCCATTCTGGGGAGCCATTTTTTTCTATTTCTGGAAT
80▶ C S V L D I S H I E G D I F S S F K A G Y P F W G A I F F S I S G M
901 GTTGTCAATTATATCTGAAAGGAGAAATGCAACATATCTGGTGAAGGAAAGCCTGGGAGCAAACACTGCCAGCAGCATAGCTGGGGAAACGGGAATTACC
113▶ L S I I S E R R N A T Y L V R G S L G A N T A S S I A G G T G I T XcmI (1070)

1001 ATCCTGATCATCAACCTGAAGAAGAGCTTGGCCTATATCCACATCCACAGTTGCCAGAAATTTTTGAGACCAAGTGCCTTATGGCTTCTTTTCCACTG
147▶ I L I I N L K K S L A Y I H I H S C Q K F F E T K C F M A S F S T
1101 AAATTGTAGTGATGATGCTGTTTCTCACCATTCTGGGACTTGGTAGTGTGTCACTCACAATCTGTGGAGCTGGGGAAGAACTCAAAGGAAACAAGGT
180▶ E I V V M M L F L T I L G L G S A V S L T I C G A G E E L K G N K V

BbsI (1258)
1201 TCCAGAGGATCGTGTATGAAGAATTAACATATATTAGCTACTTACAGTGAAGTGGAAAGACCCAGGGAAATGTCTCCTCCATTGATTATAAGAA
213▶ P E D R V Y E E L N I Y S A T Y S E L E D P G E M S P P I D L •

MscI (1325)
BbrPI (1301) 1301 TCACGTGCCAGAACACTCGTAGCTGGCCAGACATGATAAGATACATTGATGAGTTGGACAAACCACAAC TAGAATGCAGTAAAAAATGCTTTATT NheI (1319)

1401 TGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAATTGCATTCTTTATGTTTCAGGTTTCAGG HpaI (1457) MfeI (1468)

1501 GGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAATGTGGTATGGAATTTCTAAAATACAGCATGCAAACTTTAACCTCAAATCAAGCC EcoRI (1553)

1601 TCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGT

1701 TTAAGATATAGTGATTTTCCCAAGGTTTGAAGTACTAGCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCCACTTCCCTTTTGTAGTAAATATTCA SspI (1792)

1801 GAAATAATTTAAATACATCATTGCAATGAAATAAATGTTTTTTATTAGGCAGAAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTT SwaI (1806) EcoO109I (1867)

1901 GGACTTAGGGAACAAAGGAACCTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTACTTGAGGGGATGAGTTCCTCAA 141◀ • N R T Y K L P I L E E I

2001 TGGTGGTTTTGACCAGCTTGCCATTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCAC SacI (2067) **BstXI (2096)**
128◀ 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 C M G C P S V V
2101 CCTGATGGATCTGTCACCTCATCAGAGTAGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATG
95◀ 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 S V A S G I A I

2201 GCTTCAGCACAGACAGTACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGC T StuI (2231)
61◀ 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 I A A G V H H K

BspHI (2381)
BbsI (2377)
XmnI (2373) 2301 TGTTGCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGTCTTCATGATGGCCCTCTATA
28◀ 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 T K M

2401 GTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTATCTGACGGTTCCTAAACGAGC AseI (2439) SacI (2496)

2501 TCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTACGACATTTTGGAAAGTCCCGTTGATTTACTAG **SpeI (2594)**

2600 TCAAAACAACTCCATTGACGTCAATGGGGTGGAGACTTGGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATC

2700 ATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGT **SnaBI (2722)**

2800 CATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGTACTGTTGACTGCCAAGTGGGCGAGTTTACCGTAAATACTCCACCATTGACGTCAATGGAA **NdeI (2827)**

2900 AGTCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGTCTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAAGTTAT

3000 GTAACGCCTGCAGGTTAA TTAAGAACATGTGAGCAAAAGGCCAGAAAGCCAGGAACCGTAAAAAGGCCGCTTGTGGCGTTTTTCCATAGGCTC **PstI (3006)**
SdaI (3005) **PacI (3013)** **BspLU11I (3023)**

3098 CGCCCCCTGACGAGCATCAAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCCTGGAAGCTCCC

3198 TCGTGCCTCTCCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCTCACGCTGTAGGTA

3298 TCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTGAGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAG **ApaLI (3337)**

3398 TCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGT

3498 GGTGGCCTAACTACGGCTACACTAGAAGACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGG

3598 CAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACG

3698 GGGTCTGACGCTCAGTGGAACGAAACTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCGCAATAAAATATCTTTATT **EagI (3773)**
PacI (3753) **SwaI (3762)** **NotI (3772)**

3798 TTCATTACATCTGTGTGTTGGTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTC

3898 CCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA