



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

Psp1406I (203) **PvuII (239)** **Bsu36I (291)**
EcoNI (287) 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGGCCGAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACCGCGCCCGCCCTACCTGAGGCC
301 GCCATCCACGCGGTTGAGTCGCGTTCTGCCGCTCCCGCCTGTGGTGCCTCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGTCTTTGTTTCGTTT

NcoI (560)
BstEII (555)
AgeI (552) 501 TCTGTTTGTCCGCGGTTACAGATCCAAGCTGTGACCGGGCGCTACCTGAGATCACCGGTACCATTGGAGAGCAAGGTGCTGCTGGCCGTCGCCCTGTGGCT
1 M E S K V L L A V A L W L

XmaI (611)
601 CTGCGTGGAGACCCGGGCGCCTCTGTGGGTTTGCCTAGTGTCTTCTTGTGATCTGCCAGGCTCAGCATAAAAAAGACATACTTACAATTAAGGCTAAT
13 C V E T R A A S V G L P S V S L D L P R L S I Q K D I L T I K A N
701 ACAACTCTTCAAATTACTTGCAGGGGACAGAGGACTTGGACTGGCTTTGGCCCAATAATCAGAGTGGCAGTGAAGCAAAGGTGGAGGTGACTGAGTGC
47 T T L G I T C R G Q R D L D W L W P N N Q S G S E Q R V E V T T E C G
801 GCGATGGCCTCTTGTAAAGACACTCACAATCCAAAAGTGCAGAAATGACACTGGAGCCTACAAGTCTTACCGGAAACTTGTGCTTGCCTCGGT
80 S D G L F C K T L T I P K V I G N D T G A Y K C F Y R E T D L A S V
BglII (925)
901 CATTTATGTCTATGTTCAAGATTACAGATCTCCATTTATTGCTTCTGTTAGTGACCAACATGGAGTCGTGACATTACTGAGAACAAAAACAAACTGTG
113 I Y V Y V Q D Y R S P F I A S V S D Q H G V V Y I T E N K N K T V

DraIII (1040)
1001 GTGATTCCATGTCTCGGGTCCATTTCAAATCTCAACGTGTCACTTTGTGCAAGATACCCAGAAAAGAGATTTGTTCTGATGGTAACAGAATTTCTGGG
147 V I P C L G S I S N L N V S L C A R Y P E K R F V P D G N R I S W

AseI (1171)
1101 ACAGCAAGAAGGGCTTTACTATTCCAGCTACATGATCAGCTATGCTGGCATGGTCTTCTGTGAAGCAAAAATTAATGATGAAAGTTACCAGTCTATTAT
180 D S K K G F T I P S Y M I S Y A G M V F C E A K I N D E S Y Q S I M
1201 GTACATAGTTGTCTGTAGGGTATAGGATTTATGATGTGGTCTGAGTCCGCTCATGGAATTGAACATCTGTTGGAGAAAAGCTTGTCTTAAATTTG
213 Y I V V V V G Y R I Y D V V L S P S H G I E L S V G E K L V L N C

BstBI (1353)
1301 ACAGCAAGAAGTGAACAAATGTGGGATTGACTTCAACTGGGAATACCTTCTTCAAGCATCAGCATAAGAAAATTGTAACCAGACCTAAAAACCC
247 T A R T E L N V G I D F N W E Y P S S K H Q H K K L V N R D L K T
1401 AGTCTGGGAGTGAAGTGAAGAAATTTTGGACCTTAACTATAGATGGTGTAAACCCGGAGTGACCAAGGATTGTACCTGTGCAGCATCCAGTGGGCT
280 Q S G S E M K K F L S T L T I D G V T R S D Q G L Y T C A A S S G L
1501 GATGACCAAGAAGAACAGCACATTTGTGAGGTCAGGAAACCTTTGTTGCTTTTGGAAAGTGGCATGGAATCTCTGGTGGAGCCACGGTGGGGGAG
313 M T K K N S T F V R V H E K P F V A F G S G M E S L V E A T V G E

BstEII (1627) **XcmI (1639)**
1601 CGTGTGCAATCCCTGCGAAGTACCTTGGTTACCCACCCAGAAATAAAATGGTATAAAAATGGAATACCCCTTGTGTTCAATCACACAATTAAGCGG
347 R V R I P A K Y L G Y P P P E I K W Y K N G I P L E S N H T I K A
1701 GGCATGTACTGACGATTATGAAAGTGAAGTGAAGAGACAGGAAATACACTGTATCTTACCAATCCATTCAAAGGAGAAAGCAGAGCCATGTGGT
380 G H V L T I M E V S E R D T G N Y T V I L T N P I S K E K Q S H V V

BspLU11I (1891)
1801 CTCTCTGGTGTGTATGTCCACCCAGATTGGTGAAGAAATCTAATCTCTCTGTTGATTCTACAGTACGGCACCACTCAAACGCTGACATGTACG
413 S L V V Y V P P Q I G E K S L I S P V D S Y Q Y G T T Q T L T C T
1901 GTCTATGCCATTCCTCCCGCATCACATCCACTGGTATTGGCAGTTGGAGGAAGAGTGCGCCAACGAGCCAGCCAAAGCTGTCTCAGTGACAAACCAT
447 V Y A I P P P H H I H W Y W Q L E E E C A N E P S Q A V S V T N P
2001 ACCCTTGTGAAGAATGGAGAAGTGTGGAGACTCCAGGGAGGAAATAAAATGAAGTAAATAAAAATCAATTTGCTCTAATTGAAGGAAAAACAAAC
480 Y P C E E W R S V E D F Q G G N K I E V N K N Q F A L I E G K N K T

BbrPI (2197)
2101 TGTAAGTACCCTTGTATCCAAGCGCAAAATGTGTCAGCTTTGTACAATGTGAAGCGGTCAACAAAAGTGGGAGAGGAGAGGGGTGATCTCCTTCCAC
513 V S T L V I Q A A N V S A L Y K C E A V N K V G R G E R V I S F H

PstI (2276)
EcoO109I (2208) **ApaLI (2271)** **BglII (2284)**
2201 GTGACCAGGGTCTGAAATTAATTTGCAACCTGACATGCAGCCACTGAGCAGGAGAGCGTGTCTTTGTGGTCACTGCAGACAGATCTACGTTTGA
547 V T R G P E I T L Q P D M Q P T E Q E S V S L W C T A D R S T F E
2301 ACCTCACATGGTACAAGCTTGGCCACAGCCTCTGCCAATCCATGTGGGAGAGTTGCCACACCTGTTTGAAGAATTTGGATACTCTTTGAAATTTGAA
580 N L T W Y K L G P Q P L P I H V G E L P T P V C K N L D T L W K L N

NsiI (2453) **Tth111I (2476)**
2401 TGCCACCATGTTCTAATAGCACAAAATGACATTTTGTGATGAGGCTTAAAGAAATGCATCTTGCAGGACCAAGGAGACTATGTCTGCTTGTCTCAAGAC
613 A T M F S N S T N D I L I M E L K N A S L Q D Q G D Y V C L A Q D
2501 AGGAAGACCAAGAAAAGACATTTGCGTGGTCAAGGAGCTCAGTCTAGAGCGTGTGGCACCCACGATCACAGGAAACCTGGAGAATCAGACGACAAGTA
647 R K T K K R H C V V R Q L T V L E R V A P T I T G N L E N Q T T S

XcmI (2647)
2601 TTGGGAAAGCATCGAAGTCTCATGCACGGCATCTGGAAATCCCTCCACAGATCATGTGGTTAAAGATAATGAGACCCTTGTAGAAGACTCAGGCAT
680 I G E S I E V S C T A S G N P P P Q I M W F K D N E T L V E D S G I

2701 TGTATTGAAGGATGGGAACCGAACCTCACTATCCGCAGAGTGAGGAAGGAGGACGAAGGCCTCTACACCTGCCAGGCATGCAGTGTTCTTGGCTGTGCA
 713▶ V L K D G N R N L T I R R V R K E D E G L Y T C Q A C S V L G C A
 StuI (2757) SphI (2776)
 MscI (2842)
 2801 AAAGTGGAGGCATTTTTTATAATAGAAGGTGCCTAAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGCAAACCACTAGAATGCAGT
 747▶ K V E A F F I I E G A •
 NheI (2836)
 2901 GAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAATTGCATTCAATT
 HpaI (2974) MfeI (2985)
 3001 TATGTTTCAGGTTACAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATCTAAANAATACAGCATAGCAAACCTTT
 EcoRI (3070)
 3101 AACCTCCAAATCAAGCCTCTACTTGAATCCTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTC
 SapI (3252)
 3201 ACCTTCTTTCATGGAGTTAAGATATAGTGATTTTTCCCAAGGTTTGAAGTACTCTTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCT
 SspI (3309) SmaI (3323) EcoO109I (3384)
 3301 TTTTAGTAAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATAT
 3401 CCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAG
 141 • N R T Y K L
 SacI (3584)
 3501 GGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATG
 134▶ 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 C M
 BstXI (3613)
 3601 CCACAGGGGTGACCACTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAG
 100▶ 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 S V A
 StuI (3748)
 3701 CAGACCCAATGGCAATGGCTTACGACAGACAGTACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTGATGGC
 67▶ 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 I A
 XmnI (3890)
 3801 CGCCCCGACATGGTGTCTTGTCTCATAGAGCATGGTGTCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTC
 34▶ 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 T K
 AseI (3956)
 3901 ATGGTGGCCCTCCTATAGTGAGTCGATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCAGCTTATCTGA
 0▶M
 SacI (4013)
 4001 CGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACAGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGT
 SpeI (4111)
 4101 CCCGTTGATTTACTAGTCAAACAAACTCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTA
 SnaBI (4239)
 4201 CTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGACTGCCAAGTAGGAAAGTCCATAAGGTATGACTGGGCATAATGCCAG
 NdeI (4344)
 4301 GCGGGCCATTTACCGTCATTGACGTCAATAGGGGCGTACTTGGCATATGATACACTTGTACTGCCAAGTGGGAGTTTACCGTAAATACTCCACCC
 4401 ATTGACGTCAATGAAAAGTCCCTATTGGCGTACTATGGGAACATACGTATTATTGACGTCAATGGGCGGGGTGTTGGGCGGTGACGCAGCGGGCC
 PacI (4530)
 PstI (4523) SdaI (4522) BspLU11I (4540)
 4501 ATTTACCGTAAGTTATGTAACGCCTGCAGGTTAAATAAGAACATGTGAGCAAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGGCGT
 4601 TTTTCCATAGGCTCCGCCCCCTGACGAGCATCAGAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGCGTTTCC
 4701 CCCTGGAAGTCCCTCGTGCCTCTCCTGTTCCGACCTCGCGCTTACCGGATACCTGTCGCTTTTCTCCTTCGGGAAGCGTGGCGCTTTCTCATAGC
 ApaLI (4854)
 4801 TCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTCAGCCCGACCGCTGCGCTTATCCGGTA
 4901 ACTATCGTCTTGTGTCACCCGTAAGACACGACTTATCGCCACTGGCAGCAGCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGCGGTGCTAC
 5001 AGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGT
 5101 AGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTT
 EagI (5290)
 5201 TGATCTTTTCTACGGGTCTGACGCTCAGTGGAAACGAAACTCACGTTAAGGGATTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGCCGCAAT
 PacI (5270) SmaI (5279) NotI (5289)
 5301 AAAATATCTTTATTTTATTACATCTGTGTGTTGGTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAG
 5401 CAAAATAGGCTGTCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA