



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

101 GAGAAGTGGCGCGGGTAAACTGGAAAGTGTGTCGTGACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245) **Bsu36I (291)**
Psp1406I (203) 201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCAGAGGGCTCGCATCTCTCTTACCGCGCCCGCCCTACCTGAGGCC
PvuII (239) EcoNI (287)

301 GCCATCCACGCGGTTGAGTCGCGTTCTGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441) **NaeI (441)**
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCGCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTCTCAACTCTACGTCTTTGTTTCGTTT

KasI (535) **AgeI (552)** **BssHII (576)**
501 TCTGTTCTGCGCGGTTACAGATCCAAGCTGTGACCGCGCGCTACCTGAGATCACCGGTCAACATGTCGTGGGCTGCGCGCCGAGACTTTCCCGCTG
1▶ M S S G L R A A D F P R W

KasI (626) **Bst1107I (675)** **BglII (699)**
601 GAAGCGTCACATCGCGGAGAACTGAGGCGCCGGACCGACTGCAGAGCGAGCGTTCGAGGAGATCATTCTGCAGTATACCAAGTTGCTGAAAAAGTCA
13▶ K R H I A E E L R R R D R L Q R Q A F E E I I L Q Y T K L L E K S
701 GATCTTCATTAGTATTGACCCAGAACTACAAGCAGAAAAGCATGACATGCCAAATAGGCATGAAATAAGTCTGGACATGATGGTGCCTGGAATGATA
47▶ D L H S V L T Q K L Q A E K H D M P N R H E I S P G H D G A W N D
801 GTCAACTACAAGAAATGGCCAGTTGAGGATCAAACACCAGGAAGAGCTGACCGAACTGCACAAGAAGCGTGGGGAGTTAGTCTAGTGGTATTGACCT
80▶ S Q L Q E M A Q L R I K H Q E E L T E L H K K R G E L A Q L V I D L
901 GAACAACCAATGCGAGCAGAAGGACAAGGAGATACAGATGAATGAAGCAAAGATTTCGGAGTATTACAGACCATCTCTGACCTGGAGACAAACTGCCTG
113▶ N N Q M Q Q K D K E I Q M N E A K I S E Y L Q T I S D L E T N C L

FspI (1004) **XhoI (1024)**
1001 GACCTGCGCACAAACTGCAGGACCTCGAGGTAGCCAACCAGACCTGAAGGATGAGTATGACGCCCTGCAGATTACTTTTACTGCCCTAGAAGAGAAC
147▶ D L R T K L Q D L E V A N Q T L K D E Y D A L Q I T F T A L E E K

BstEII (1131)
1101 TGAGGAAAATACTGAGGAGAACCAGGAAGTGGTCAACAGATGGATGGCTGAGAAGGCCAAGAAGCCAATCGCCTCAATGCAGAGAATGAGAAGGACTC
180▶ L R K T T E E N Q E L V T R W M A E K A Q E A N R L N A E N E K D S
1201 CAGGAGCGTCAAGCAGCGCTGCAGAAGGAGCTTCAGAAGCAGCAAAGAACCTCTACCTGTTGAACAGGATGATGACATTGAAGTATTGTTGATGAG
213▶ R R R Q A R L Q K E L A E A A K E P L P V E Q D D D I E V I V D E

EcoRV (1390)
1301 ACCTCAGACCACACAGAAGACCTCTCCCGTCCGAGCTGTCAGCAGAGCAGCTACGAGACGCTCTGTCTCTCCATCCAGTCCCCCAGGATATCATGG
247▶ T S D H T E E T S P V R A V S R A A T R R S V S S I P V P Q D I M

FspI (1461)
1401 AACTCATCTGCTTCTGGTAAAGATGTGAGAGTCCAACTACTGCCTCGTATGTCTTCGATGCGCATGACGGAGAGGTCAACGCAGTGCAGTTCAGTCC
280▶ D T H P A S G K D V R V P T T A S Y V F D A H D G E V N A V Q F S P

MscI (1514) **EcoRI (1573)**
1501 AGGCTCCCGTGGTGGCACTGGAGGCATGGACCGCAGGGTGAACCTTTGGGAAGCATTGCGAGATAAATGTAATCAAGGGCTCCCTGTCTGGCAGT
313▶ G S R L L A T G G M D R R V K L W E A F G D K C E F K G S L S G S

ClaI (1697) **BsaBI (1690)**
1601 AATGCTGGAATTACAAGCATTGAATTTGATAGTGTGGAGCTTACCTATTAGCAGCTTCAAATGATTTTGAAGCCGAATCTGGACTGTGGATGATTATC
347▶ N A G I T S I E F D S A G A Y L L A A S N D F A S R I W T V D D Y
1701 GATTACGGCACACACTCACAGGCACAGCGGAAAGTCTCTCTGCAAGTCTCTGCTGGACAATGCACGGATTGTCTCAGGAAGTACAGCCGGACCT
380▶ R L R H T L T G H S G K V L S A K F L L D N A R I V S G S H D R T L

PvuII (1854) **BamHI (1849)**
1801 CAACTCTGGGATCTCCGCGACAAAGTCTGCATAAAAAACAGTGTGGCAGGATCCAGTGAATGACATTGTTTGCAGTGAACAAATGTGAATGAGTGA
413▶ K L W D L R S K V C I K T V F A G S S C N D I V C T E Q C V M S G

EcoRV (1927)
1901 CATTTTGACAAGAAAATTCGTTTCTGGGATATCCGGTCCAGAGAGTGTGGTCCGAGAGATGGAAGTGTAGGGAAGATCACTGCTCTGGACCTAAACCTG
447▶ H F D K K I R F W D I R S E S V V R E M E L L G K I T A L D L N P

BspEI (2054)
2001 AGAGAAGTGGAGTCTGAGTGTCTCCCGTATGACCTGCTAAAAGTCAATGACCTCCGGACAAATGCAGTCAAACAGACATTCAGTGCCTGGATTCAA
480▶ E R T E L L S C S R D D L L K V I D L R T N A V K Q T F S A P G F K

XmaI (2117)
2101 ATGCGCTCTGACTGGACCCGGTGTCTTCAGCCCTGATGGCAGTACGTGGCAGCAGGCTCAGCCGAGGGTCTCTTTATGCTGGAGTGTGCTGACA
513▶ C G S D W T R V V F S P D G S Y V A A G S A E G S L Y V W S V L T

Bsp120I (2258)
2201 GGGAAAGTGGAGAAGTTCTTTCAAACAGCACAGCTCTTCTATCAATGCGGTGGCGTGGGCCCTCGGGCTTACATGTTGTCAGTGTGGACAAAGGAA
547▶ G K V E K V L S K Q H S S I N A V A W A P S G L H V V S V D K G

MscI (2358)
2301 GCAGAGCTGTGCTGTGGGCACAGCCTTGTGCTGCACCCTTAGGAGCACCGTCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACC
580▶ S R A V L W A Q P •

Bsu36I (2337) **NheI (2352)**
2401 ACAACTAGAATGCAGTGAATAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAGTTAAACAACA

HpaI (2490)

MfeI (2501) EcoRI (2586)
 2501 ACAATTGCATTCATTTTATGTTTCAGGTTCAAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTATGGAATTCTAAAATAC
 2601 AGCATAGCAAAACTTTAACCTCCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATT
 2701 AGCTGTTTGACGCTCACCTTCTTTCATGGAGTTAAGATATAGTGTATTTTCCCAAGTTTGAAGTACTGCTTTCATTCTTTATGTTTTAAATGCACTG

SspI (2825) SmaI (2839)
 2801 ACCTCCACATTCCTTTTTAGTAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCA
 2901 AGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGT

3001 TCCTGGTGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCATTTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGAT
 139 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
 3101 GAGCTCTGCACATGCCACAGGGGCTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTC
 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 (3264)
 3201 TGCCCGTTGCTCACAGCAGACCAATGGCAATGGCTTACGACAGACAGTGCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCGAG
 72 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 T
 3301 TCTTGGTCTGATGGCCGCCGACATGGTGTGTTGCTCATAGAGCATGGTGTCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGA
 39 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

BspHI (3414) XmnI (3406) AseI (3472)
 3401 GATGTTGAAGTCTTCATGATGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTTGTCAAACAGCGTGGATGGCG
 6 I N F T K M
 3501 TCTCCAGCTTATCTGACGGTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTA

SpeI (3627)
 3601 CGACATTTTGAAAGTCCGTTGATTTACTAGTCAAAACAACTCCATTGACGTCAATGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTAT

SnaBI (3755)
 3700 CCACGCCATTGATGTAAGTCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTAAGTCCAAAGTAGGAAAGTCCCATAAAGTCAATG

NdeI (3860)
 3800 ACTGGGCATAATGCCAGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGGCTACTTGGCATATGATACACTTGTACTGCAAGTGGGCAGTTTA
 3900 CCGTAAATACTCCACCCATTGACGTCAATGAAAGTCCCTATTGGCGTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGCTGTTGGGC

SdaI (4038) Pacl (4046)
 4000 GGTACGCCAGGGGGCCATTTACCGTAAGTTATGTAACGCTG C A G G T T A A T T A A G A A C A T G T G A G C A A A A G G C C A G C A A A A G G C C A G G A A C C G T A A A
 4098 AAGGCCGCTTGTGCGCTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTAT
 4198 AAAGATACCAGGGCTTTCCCTGGAAGCTCCCTGTCGCTCTCTGTTCCGACCCTGCCGCTTACCGGATACCTGTCCGCCTTTCTCCCTTCGGAAG

ApaLI (4370)
 4298 CGTGGCGCTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCCGTTGAGTGTGTTGCTCCAAAGCTGGGCTGTGTGCACGAACCCCCGTTTCAGCCCGAC
 4398 CGCTGCGCTTATCCGGTAACTATCGTCTTGTGTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAAACAGGATTAGCAGAGCGA
 4498 GGTATGTAGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTAC
 4598 CTTGGAAGAAAGAGTTGGTAGCTCTTGATCCGGCAACAAACCACCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCCGAGAAAAAAA

Pacl (4786) SmaI (4795)
 4698 GGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTTCATGGCTAGTTAATTAACAT

EagI (4806)
 NotI (4805)
 4798 TTAATC AGCGGCCGCAATAAAATATCTTTATTTTTCATTACATCTGTGTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAACAAA
 4898 ACGAAACAAAACAACTAGCAAAATAGGCTGTCCCGAGTGAAGTGCAGGTGCCAGAACATTTCTCTATCGAA