



PvuI (7)
SgfI (6)
1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTCGGCAATTGAACGGGTGCCTA
101 GAGAAAGTGGCGGGGTAACCTGGAAAGTGATGTCGTGACTGGTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) **HindIII (245)** **Bsu36I (291)**
201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCCTTACGCGCCCGCCCTACCTGAGGCC
301 GCCATCCACGCCGGTTGAGTCGCGTTTCTGCCGCCTCCCGCCTGTGGTGCCTCCTGAAGTGCCTCCGCCGTCTAGGTAAGTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

NcoI (560) **BstEII (555)**
501 TCTGTTCTGCGCGGTTACAGATCCAAGCTGTGACCGCGCGCTACCTGAGATCACCGGTACCATTGGCGTGGTCCGGTAATAAGGCAGCTGTTGTGCTGTG
1 M A W S G N K A A V V L C

KasI (535) **AgeI (552)**
601 TGTGGATGTGGGGTTGCCATGGGTAACCTCTTCTGGTGAAGAATCTCCAATTGAACAAGCAAAGAAAGTGTGACTATGTTTGTCCAACGACAGGTA
13 V D V G V A M G N S F P G E E S P I E Q A K K V M T M F V Q R Q V

NcoI (617) **DraIII (792)**
701 TTTTCGGAGAGCAAAGATGAGATTGCGTTAGTCTCTATGGCACAGATGGCACTGATAATGCCCTTGGTGGCAAGGACCAAGTATCAGAACATCACAGTGT
47 F S E S K D E I A L V L Y G T D G T D N A L A G K D Q Y Q N I T V
801 GCAGACACCTGATCTACAGATTTTGATTGCTGGAAGACATCGAAACAAAATCCAGCCAAGTTCAGCAAGCCGACTTCTGGACGCCCTGATTGT
80 C R H L M L P D F D L L E D I G N K I Q P S S Q Q A D F L D A L I V
901 GTGCATGGATTTGATTGAGCGTAAACCATAGGAAGAAGTTGGGAAGAAGCATATTGAAGTTCCTGACCTCAGCAGCCCGTTCAGCCAGGACCAA
113 C M D L I Q R E T I G K K F G K K H I E V F T D L S S P F S Q D Q

PstI (1042)
1001 CTGGACGTTATAATTTGAACTTGAAGAAGTCTGGCATCTCTGCAAGTCTTTTTGCCTTTTCCAATCGACAAGAATGGCGAGCCTGGCGAGAGAGGGG
147 L D V I I C N L K K S G I S L Q F F L P F P I D K N G E P G E R G
1101 ACCTGGACTCTGGCTTGGACCACTCAAACCTCTTCCCTCAAAAAGGACTTACTGAGCAGCAAAAGGAAGGCATCCGCATGGTACAGGGTGTGCT
180 D L D S G L D H L K P S F P Q K G L T E Q Q K E G I R M V T R V M L
1201 GTCCTTAGAAGGCGAAGACGGCTGGATGAAATTTATCTTCCAGTGAAGTCTACGACAACCTGTGCGTCTTTAAGAAGATTGAGAGGCGTTCATGCC
213 S L E G E D G L D E I Y S F S E S L R Q L C V F K K I E R R S M P

BsrGI (1362)
1301 TGGCCCTGCCAAGTACGACCTGGCCCACTTGTCTATAAAGATTGTAGCCTATAAATCGATTGTACAGGAGAAATTTAAGAAGATTGGGTAGTTGTGG
247 W P C Q L T I G P N L S I K I V A Y K S I V Q E K F K K S W V V V

XcmI (1308) **ClaI (1356)** **Acc65I**
1401 ACGCAAGAAGCTAAAGAAGGAAGATATACAAAAGAGACTGTTTATTGCCTAAATGACGATGATGAAACTGAAGTTTCAAAGAGGACACTATTCAAGG
280 D A R T L K K E D I Q K E T V Y C L N D D D E T E V S K E D T I Q G

EcoRV (1516)
1501 GTACCGCTACGGAAGTATCATTCTTTTCTAAAGTGGATGAGGAACAAATGAAATATAAATCTGAGGGGAAAGTCTTCTGTTTTGGGATTTTGT
313 Y R Y G S D I I P F S K V D E E Q M K Y K S E G K C F S V L G F C
1601 AAATCTTCTCAGGTTTCATAGAAGATTCTTCATGGGACATCAAGTTCTAAAGGCTTTGACGAAAGGATGATGAGGCGCAGCTGTTGCCCTTCTCTC
347 K S S Q V H R R F F M G H Q V L K V F A A K D D E A A A V A L S S

BglII (1759)
1701 TCGTTCATGCTTTGGATGAGTTAAACATGGTCGCCATCGTCGATATGCTTATGACAAAAGATCTAATCCTCAAGTTGGTGTAGCCTTCCCTTACATTA
380 L V H A L D E L N M V A I V R Y A Y D K R S N P Q V G V A F P Y I K

BspLU11I (1859) **ApaLI (1890)**
1801 GGACGCCTATGAGTGTGTTAGTTTATGTGCAGCTGCCTTTCATGGAAGACTTGGGCAATACATGTTTCTCGCTGAAAAACAATAAGAAGTGCACCTCC
413 D A Y E C L V Y V Q L P F M E D L R Q Y M F S S L K N N K K C T P

Eco47III (1915) **BstXI (1940)**
1901 ACAGAGGCCAGCTGAGCGCTATTGATGATCTGATTGATTCCATGAGCTTGGTAAAGAAAAACGAGGAAGAAGACATTGTTGAAGATTTGTTTCCAACCT
447 T E A Q L S A I D D L I D S M S L V K K N E E E D I V E D L F P T

BsrBI (2068)
2001 CAAAATTCAAAATCCTGAATTTAGCGATTGTACCAGTGTCTGCTGCATAGAGCCTTACATCTCCAGGAGCGGCTGCCCCCGATTGAGCAGCACATTTT
480 S K I P N P E F Q R L Y Q C L L H R A L H L Q E R L P P I Q Q H I L

BamHI (2109)
2101 GAATATGCTGGATCCCCCACTGAGATGAAAGCAAATGTGAGAGTCCACTCTCTAAAGTAAAGACCCCTTTCCCTCTCACAGAAGTCATCAAGAAAAAG
513 N M L D P P T E M K A K C E S P L S K V K T L F P L T E V I K K K

BspHI (2235) **Bsp120I (2245)**
2201 AACCAAGTACTGCTCAGGACGTTTTCCAAGACAAATCATGAAGAGGGGCCCGTCTAAAAAATAAAAACTGAGAAAGAAGAAGATCACATCAGCATCT
547 N Q V T A Q D V F Q D N H E E G P A A K K Y K T E K E E D H I S I
2301 CCAGCCTGGCAGAAAGGAAACATACCAAGTTGGAAGTGAATCCTGTTGAAAACCTCCGTTTCCCTAGTAAGACAGAAAGATTGCCAGCTTTGAGGAAGC
580 S S L A E G N I T K V G S V N P V E N F R F L V R Q K I A S F E E A

HindIII (2483)
2401 GAGTCTCCAGTTAATAAGTACATCGAACAATTTTGGATACCAATGAAACACTGTATTTTATGAAAAGTATGGACTGCATCAAAGCTTTCCGGGAGGAG
613 S L Q L I S H I E Q F L D T N E T L Y F M K S M D C I K A F R E E

Eco47III (2522)
2501 GCCATTGATTTTTCAGAAAGACAGCGCTTCAACAGCTTCTGGAAGCCCTTCGAGAGAAAGTGGAAATTAAGCAATTAATCATTCTGGAAATTTGTTG
647 A I Q F S E E Q R F N S F L E A L R E K V E I K Q L N H F W E I V

XcmI (2666)

2601 TTCAGGATGGAGTTACTCTGATCACAAAGACGAAGGCCAGGAAGCTCTATCACAGCTGAGGAAGCCACAAAGTTTCTGGCCCCAAAGACAAAGCAA
680▶ V Q D G V T L I T K D E G P G S S I T A E E A T K F L A P K D K A K

MscI (2788)

BsaBI (2754) NheI (2782)

2701 AGAAGATACAACGGGACCTGAAGAAGCTGGTGTGGATGATTTACTGGACATGATATAGATCATGGATGTGTGGGAATCGCTAGCTGGCCAGACATG
713▶ E D T T G P E E A G D V D D L L D M I •

2801 ATAAGATACATTGATGAGTTTGGACAAACCACAACACTAGAATGCAGTGAATAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCA

HpaI (2920)

2901 TTATAAGCTGCAATAAACCAAGTTAACAAACAACATTGCATTCATTTTATGTTTCAGGTTCAAGGGGAGGTGTGGGAGTTTTTTAAAGCAAGTAAACCT

EcoRI (3016)

3001 CTACAAATGTGGTATGGAATTCTAAATACAGCATAGCAAACTTAACCTCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCAT

3101 AGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTGCAGCCTCACCTTCTTCATGGAGTTAAGATATAGTGTATTTTCCAAGTTTGAAGTAC

SspI (3255) SwaI (3269)

3201 TCTTCATTTCTTTATGTTTTAAATGCACCTGACCTCCACATTCCTTTTTAGTAAATATTAGAAATAATTTAAATACATCATTGCAATGAAATAAAT

3301 GTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGAACCTTTAATAGAAATTGG

3401 ACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCACTCAATGAG
141▶ • N R T Y K L P I L E E I T T K V L K G N M E I L

SacI (3530) BstXI (3559)

3501 CACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGACATGCCACAGGGGCTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGTGC
116▶ 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 D S Y P H

StuI (3694)

3601 CTGACAGCCACAATGGTGTCAAAGTCTCTGCCCCTGCTCACAGCAGCCAAATGGCAATGGCTTCAGCACAGACAGTGCCTGCCAATGTAGGCCT
82▶ 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 R G I Y A E

3701 CAATGTGGACAGCAGAGATGATCTCCAGTCTGGTCTGATGGCCGCCGACATGGTGTCTGTTGCTCATAGAGCATGGTGTCTTCTCAGTGGC
49▶ 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 I K E T A

BspHI (3844)

3801 GACCTCCACCAGTCCAGATCCTGCTGAGAGATGTTGAAGTCTTCATGATGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGA
16▶ V E V L E L D Q Q S I N F T K M

AseI (3902) SacI (3959)

3901 TGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACC

SpeI (4057)

4000 GCCCATTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCCTGTTGATTTACTAGTCAAAAACAACTCCCATTGACGTCAATGGGGTGGAG

SnaBI (4185)

4099 ACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTAC

NdeI (4290)

4199 TGCCAAGTAGGAAAGTCCATAAGGTCTGACTGGGCATAATGCCAGGCGGGCATTACCCTGATTGACGTCAATAGGGGGCTACTTGGCATATGAT

4299 ACACCTGATGACTGCCAAGTGGGAGTTACCCTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCAT

PstI (4469) SdaI (4468) PacI (4476) BspLU11I (4486)

4399 TATTGACGTCAATGGGCGGGGTCGTTGGCGGTGAGCCAGGCGGGCCATTTACCCTAAGTTATGTAACGCCCTGCAGGTTAA TTAAGAACATGTGAGC
4497 AAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCA
4597 AGTCAGAGGTGGCGAAACCCGACAGGACTATAAGATACCAGGCTTTCCCTGGAAGTCCCTCGTGCCTCTCTGTTCCGACCCTGCCGTTACCG
4697 GATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGTTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCAAGCTGGG

ApaLI (4800)

4797 CTGTGTGCACGAACCCCGTTACGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGTAGTCCAAACCGGTAAGACACGACTTATGCCACTGGCA

4897 GCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTAT

4997 TTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTTGTATCCGGCAAACAAACCCGCTGGTAGCGGTGTTTTTTTGT

5097 TTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGGAAACGAAAACCTCACGTTAA

EagI (5236) PacI (5216) SwaI (5225) NotI (5235)

5197 GGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCCAATAAAATATCTTTATTTTTCATTACATCTGTGTGTTGTTTTTTGTGTGAATC

5297 GTAACATAACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTAT
5397 CGAA