



SgfI (6) **MfeI (82)**
1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
101 GAGAAGGTGGCGGGGTAAGTGGAAAGTGTGTCTGTACTGGCTCCGCCTTTTCCCGAGGGTGGGGGAGAACCGTATATAAGTGCAGTAGTCGCC

Psp1406I (203) **HindIII (245)** **Bsu36I (291)**
201 GTGAACGTTCTTTTTTCGCAACGGGTTTGGCCGAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCCTTACGCGCCCGCCGCCCTACCTGAGGCC
301 GCCATCCACGCGGTTGAGTGCAGTCTGCCGCCTCCCGCTGTGGTGCTCTGAACTGCGTCCGCGCTAGGTAAGTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
401 GGGCCTTTGTCCGGCGTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTCGCTGACCCTGCTTGTCTCAACTCTACGTCTTTGTTTCGTTT

KasI (535) **AgeI (552)** **BamHI (572)**
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCGCTACCTGAGATCACCGGTAGGAGGGCCATCATGGATCCCGTCTGTTTACAACGTCGTGAC
601 TGGAAAACCTGGCGTTACCCAACCTAATCGCCTTGACGACATCCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGCCCGCACCGTACCGCTCC
11▶ W E N P G V T Q L N R L A A H P P F A S W R N S E E A R T D R P S
FspI (706) **Bsu36I (789)**
701 AACAGTTGCGCAGCCTGAATGGCGAATGGCGCTTTCGCTGGTTTCCGGCACCAGAAGCGGTGCCGGAAAGCTGGCTGGAGTGCATCTTCTGAGGCCGA
84▶ Q Q L R S L N G E W R F A W F P A P E A V P E S W L E C D L P E A T D
801 TACTGCTCGTCCCTCAAAGTGGCAGATGACCGGTTACGATGCGCCATCTACACCAACGTCACCTATCCATTACGTTACCTCCGCTTTGTTCC
77▶ T V V V P S N W Q M H G Y D A P I Y T N V T Y P I T V N P P F V P
901 ACGGAGAATCCGACGGTGTACTCGCTCACATTTAATGTTGATGAAAGCTGGCTACAGGAAGGCCAGACGCGAATTATTTTATGATGGCGTTAACTCGG
111▶ T E N P T G C Y S L T F N V D E S W L Q E G Q T R I I F D G V N S
1001 CGTTTTATCTGGTGGCAACGGCGCTGGTTCGCTGACGGCCAGGACAGTCTGTTTCCGCTGTAATTTGACCTGAGCGCATTTTACGCGCCGGAGAAAA
144▶ A F H L W C N G R W V G Y G Q D S R L P S E F D L S A F L R A G E N
1101 CCGCTCGCGGTGATGGTCTGCGCTGGAGTGACGGCAGTTATCTGGAAGATCAGGATATGTGGCGGATGAGCGGCATTTTCCGTGACGTCTCGTTGCTG
177▶ R L A V M V L R W S D G S Y L E D Q D M W R M S G I F R D V S L L
1201 CATAAACCAGTACACAAATCAGCGATTTCCATGTTGCCACTCGCTTAAATGATGATTTACGCGCGCTGACTGGAGGCTGAAGTTCAGATGTGCGCGC
211▶ H K P T T Q I S D F H V A T R F N D D F S R A V L E A E V Q M C G
ClaI (1389)
1301 AGTTGCGTACTACCTACGGTAACAGTTTCTTTATGGCAGGGTGAACGCAGGTCGCCAGCGGCACCAGCCTTTCGGCGGTGAAATATCGATGAGCG
244▶ E L R D Y L R V T V S L W Q G E T Q V A S G T A P F G G E I I D E R
1401 TGGTGGTTATGCCGATCGCGTACACTACGCTGAACGTCGAAACCCGAAACTGTGGAGCGCGAAATCCCGAATCTCTATCGTGGCGTGGTTGAAGT
277▶ G G Y A D R V T L R L N V E N P K L W S A E I P N L Y R A V V E L
1501 CACACCGCAGCGCAGCTGATTGAAGCAGAAGCTGCGATGTCGGTTCCCGGAGGTGCGGATGAAATGGTCTGCTGACTGAACGGCAGCCGCT
311▶ H T A D G T L I E A E A C D V G F R E V R I E N G L L L L N G K P
EcoRV (1677)
1601 TGCTGATTCGAGGCGTTAACCGTCACGAGCATCATCTCTGCATGGTCAGGTCATGGATGAGCAGACGATGGTGCAGGATATCTGCTGATGAAGCAGAA
344▶ L L I R G V N R H E H H P L H G Q V M D E Q T M V Q D I L L M K Q N
DraIII (1751) **SspI (1794)**
1701 CAACTTAAACCGCTGCGCTGTTTCGATTATCCGAACCATCCGCTGTGGTACACGCTGTGCGACCCTACGGCTGTATGGTGGATGAAGCCAATATT
377▶ N F N A V R C S H Y P N H P L W Y T L C D R Y G L Y V V D E A N I
BsaBI (1893)
1801 GAAACCCACGGCATGGTCCAATGAATCGTCTGACCGATGATCCGCGTGGCTACCGCGATGAGCGAACCGTAACCGGAATGGTGCAGCGCGATCGTA
411▶ E T H G M V P M N R L T D D P R W L P A M S E R V T R M V Q R D R
1901 ATCACCCGAGTGTGATCATCTGGTTCGCTGGGAATGAATCAGGCCAGCGCTAATCACGACGCGCTGTATCGCTGGATCAAATCTGTCGATCCTCCCG
444▶ N H P S V I I W S L G N E S G H G A N H D A L Y R W I K S V D P S R
BssHIII (2064)
2001 CCCGGTGCAGTATGAAGCGCGGAGCCGACACACCGCCACCGATATTTTCCCGATGTACGCGCGCTGGATGAAGACCAGCCCTTCCCGCTGTG
477▶ P V Q Y E G G G A D T T A T D I I C P M Y A R V D E D Q P F P A V
2101 CCGAAATGTTCCATCAAAAAATGGCTTTCGCTACTGGAGAGACGCGCCGCTGATCCTTTGCGAATACGCCACGCGATGGGTAACAGTCTTGGCGGTT
511▶ P K W S I K K W L S L P G E T R P L I L C E Y A H A M G N S L G G
2201 TCGCTAAATACTGGCAGCGTTCGTCAGTATCCCGTTTACAGGGCGGCTTCGCTGGGACTGGTGGATCAGTCGCTGATTAATATGATGAAAACGG
544▶ F A K Y W Q A F R Q Y P R L Q G G F V W D W V D Q S L I K Y D E N G
Eco47III
2301 CAACCCGTGGTTCGCTTACGCGGCTGATTTTGGCGATACGCCAACGATCGCCAGTCTGTATGAACGGTCTGGTCTTTCGCCACCGCACGCCGATCCA
577▶ N P W S A Y G G D F G D T P N D R Q F C M N G L V F A D R T P H P
2401 GCGTGCAGGAAACAAACACAGCAGTCTTTCAGTCTTTCGTTTACCGGGCAAACCATCGAAGTACCAGCGAATACCTGTTCCGTCATAGCGATA
611▶ A L T E A A K H Q Q Q F F Q F R L S G Q Q T I E V T S E Y L F R H S D
2501 ACGAGCTCCTGACTGGATGGTGGCGTGGATGGAAGCCGCTGGCAAGCGGTGAAGTGCCTCTGGATGTCGCTCCACAAGGTAACAGTTGATTGAAC
644▶ N E L L H W M V A L D G K P L A S G E V P L D V A P Q G K Q L I E L
2601 GCCTGAACTACCGCAGCCGAGAGCGCCGGCAACTCTGGCTCACAGTACGCGTAGTGAACCGAACCGACCGCATGGTCAGAAGCCGGGCACATCAGC
677▶ P E L P Q P E S A G Q L W L T V R V V Q P N A T A W S E A G H I S
XemI (2776)
2701 GCCTGGCAGCAGTGGCTCTGGCGAAAACCTCAGTGTGACGCTCCCCGCGCTCCACGCCATCCCGCATCTGACCACCAGCGAAATGGATTTTTCGA
711▶ A W Q Q W R L A E N L S V T L P A A S H A I P H L T T S E M D F C
2801 TCGAGCTGGGTAATAAGCGTTGGCAATTAACCGCCAGTCAAGCTTCTTTCACAGATGTGGATTGGCGATAAAAAACCACTGCTGACGCCGCTGGCGGA
744▶ I E L G N K R W Q F N R Q S G F L L S Q M W I G D K K Q L L T P L R D
2901 TCAGTTACCCGTCACCGCTGGATAACGACATTGGCGTAAGTGAAGCAGCCGATTGACCTAACCGCTGGTTCGAACGCTGGAAGCGCGGGCCAT
777▶ Q F T R A P L D N D I G V S E A T R I D P N A W V E R W K A A G H
3001 TACCAGGCCGAAGCAGCGTTGTTGACGTGACGGCAGATACACTTGTGATGCGGTGCTGATTACGACCGCTCACGCGTGGCAGCATCAGGGGAAAACCT
811▶ Y Q A E A A L L Q C T A D T L A D A V L I T T A H A W Q H Q G K T

3101 TATTTATCAGCCGAAAACCTACCGGATTGATGGTAGTGGTCAATGGCGATTACCGTTGATGTTGAAGTGGCGAGCGATACACCGCATCCGGCGGGAT
844▶L F I S R K T Y R I D G S G Q M A I T V D V E V A S D T P H P A R I
3201 TGGCTGAAGTCCAGCTGGCGCAGGTAGCAGAGCGGGTAAACTGGCTCGGATTAGGGCCGCAAGAAAACCTATCCCGACCGCCTTACTGCCGCTGTTTT
877▶ G L N C Q L A Q V A E R V N W L G L G P Q E N Y P D R L T A A C F
Bst1107I (3329)
BspLU11I (3325) BsiWI (3337)
3301 GACCGCTGGGATCTGCCATTGTCCAGACATGTATAACCCGTACGCTCTCCCGAGCAGAAAACGGTCTGCGCTGCGGGACGCGGAATTGAATTATGGCCAC
911▶ D R W D L P L S D M Y T P Y V F P S E N G L R C G T R E L N Y G P
3401 ACCAGTGGCGCGGCGACTTCCAGTTCAACATCAGCCGCTACAGTCAACAGCAACTGATGGAAACCAGCCATCGCCATCTGCTGCACGCGGAAGAAGGCAC
944▶H Q W R G D F Q F N I S R Y S Q Q Q L M E T S H R H L L H A E E G T
NdeI (3522)
XemI (3521)
3501 ATGCTGAATATCGACGGTTCCATATGGGATTGGTGGCGACGACTCCTGGAGCCCGTCAGTATCGCGGAATTACAGCTGAGCGCCGGTCTGCTACCAT
977▶ W L N I D G F H M G I G G D D S W S P S V S A E L Q L S A G R Y H
NheI (3645)
EcoRI (3639) MscI (3651)
3601 TACCAGTTGGTCTGGTGTCAAAAATAAATCTAGTCGAGAATTCGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAAACCACAATA
1011▶ Y Q L V W C Q K •
MfeI (3794)
3701 GAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAAACAAGTTAACAAACAACATTG
EcoRI (3879)
3801 CATTCAATTTATGTTTCAGGTTCCAGGGGAGGTGTGGGAGTTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCTAAAATACAGCATAG
3901 CAAAACTTAACCTCAAATCAAGCCTCTACTTGAATCCTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTT
SapI (4061)
4001 TGCAGCCTCACCTCTTTTCATGGAGTTTAAAGATATAGTGATTTTTCCCAAGTTTGAAGTACTCTTTCATTTCTTTATGTTTTAAATGCACTGACCTCCC
SspI (4118) SmaI (4132) EcoO109I (4193)
4101 ACATTCCTTTTTAGTAAATATTTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCT
4201 TCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAGGAACCTTAATAGAATTTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGT
141▶ • N R T
4301 GTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCATTCTCAATGAGCACAAGCAGTCAAGGAGCATAGTCAGAGATGAGCTCT
137▶ 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 L E
4401 CTGCACATGCCACAGGGGCTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCCGT
103▶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 Q G N
StuI (4557)
4501 TGCTCACAGCAGACCCAATGGCAATGGCTTCCAGCAGACAGTACCCTGCCAATGTAGGCCTCAATGTGGCAGCAGAGATGATCTCCCAGTCTTGGT
70▶ 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 K T
XmnI (4699)
4601 CCTGATGGCCGCCGACATGGTCTTGTGTCCTCATAGAGCATGGTGTCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTG
37▶ 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 I N
AseI (4765)
4701 AAGGTCTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAG
34▶ F T K M
4801 CTTATCTGACGGTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATT
SpeI (4920)
4901 TTGGAAAGTCCCCTGATTTACTAGTCAAACAAACTCCCATGACGTCAATGGGGTGGAGACTTGGAAATCCCCTGAGTCAAACCGCTATCCACGCC
SnaBI (5048)
5001 ATTGATGACTGCCAAAACGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGACTGGGCA
NdeI (5153)
5101 TAATGCCAGGCGGGCATTACCCTGATTGACGTCAATAGGGGGCGTACTTGGCATATGATACTTGTACTGCAAGTGGGCGAGTTACCGTAAAT
5201 ACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCAATTATTGACGTCAATGGGGGGGGTCTGTTGGCGGTCAGCC
PacI (5339)
PstI (5332)
SdaI (5331) BspLU11I (5349)
5301 AGGCGGGCCATTTACCGTAAGTTATGTAACGCCCTGCAGGTTAAATAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGGCCCGCT
5401 TGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCAAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCA
5501 GGGTTTTCCCCTGGAAGCTCCCTCGTGCCTCTCTGTTCCGACCCTGCCGCTTACCGGATACCTGTCCGCTTTCTCCCTTCGGAAGCGTGGCGCTT
5601 TCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGTGTCTCGCTCAAGCTGGGTGTGTGCACGAACCCCGTTCAGCCCGACCGCTGCGCT
5701 TATCCGGTAACTATCGTCTTGAGTCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGG
5801 CGGTGCTACAGAGTTCTTGAAGTGGTGGCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAA

5901 AGAGTTGGTAGCTCTTGATCCGGCAAACAACCACCGCTGGTAGCGGTGGTTTTTTTTGTTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAG

6001 AAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGAACGAAACTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AGC

PacI (6079) SwaI (6088) **EagI (6099)**
NotI (6098)

6101 GGCCGCAATAAAATATCTTTATTTTCATTACATCTGTGTGTTGGTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAACAAAACGAAACAAA

6201 ACAAAC TAGCAAAATAGGCTGTCCCAGTCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA