



PvuI (7) SgfI (6) MfeI (82)
1 GGATCTGCGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTGTGCTGTACTGGCTCCGCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) HindIII (245) Bsu36I (291)
201 GTGAACGTTCTTTTTTCGAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCCTTACCGCGCCCGCCCTACCTGAGGCC
301 GCCATCCACGCCGGTTGAGTCGGTTCGCGCCTCCCGCTGTGGTGCTCCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTTT

BstAPI (566)
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCGCTACCTGAGATCACCGGTATCATGAGCAGCAGCTGCTCAGGGCTGAGCAGGGTCTGGT
601 GGCCGTGGCTACAGCCCTGGTGTCTGCCTCCTCCCTGCCCCAGGCTGGGGCCCCCAGGGTCCAGTATGGGACCCAGGCAGGTCCTGGAAGCTG
13▶ A V A T A L V S A S S P C P Q A W G P P G V Q Y G Q P G R S V K L
1▶ M S S S C S G L S R V L V

BstXI (727) SandI (722)
701 TGTTGCTCTGGAGTACTGCCGGGACCCAGTGTCTGCTGTTTCGGGATGGGGAGCCAAAGCTGCTCCAGGGACCTGACTCTGGGCTAGGGCATGAACTGG
47▶ C C P G V T A G D P V S W F R D G E P K L L Q G P D S G L G H E L

XcmI (843) ApaLI (857) PstI (880)
801 TCCTGGCCAGGCAGACAGCACTGATGAGGGCACCTACATCTGCCAGACCTGGATGGTGCACCTGGGGGCACAGTACCCTGCAGCTGGGCTACCCTCC
80▶ V L A Q A D S T D E G T Y I C Q T L D G A L G G T V T L Q L G Y P P
901 AGCCCGCCTGTTGTCTCCTGCCAAGCAGCCGACTATGAGAACTTCTCTGCACTTGGAGTCCAGCCAGATCAGCGGTTTACCCACCCGCTACCTCACC
113▶ A R P V V S C Q A A D Y E N F S C T W S P S Q I S G L P T R Y L T

BbsI (1011) MscI (1063)
1001 TCCTACAGGAAGAAGACAGTCTAGGAGCTGATAGCCAGAGGAGTCCATCCACAGGGCCCTGGCCATGCCACAGGATCCCTAGGGGCTGCCCGCT
147▶ S Y R K K T V L G A D S Q R R S P S T G P W P C P Q D P L G A A R

AseI (1138) DraIII (1160)
1101 GTGTTGTCCACGGGGCTGAGTTCTGGAGCCAGTACCGGATTAATGTGACTGAGGTGAACCCACTGGGTGCCAGCACACGCCTGCTGGATGTGAGCTTGCA
180▶ C V V H G A E F W S Q Y R I N V T E V N P L G A S T R L L D V S L Q

BstEII (1252)
1201 GAGCATCTTGCGCCCTGACCCACCCAGGGCTGCGGGTAGAGTCAGTACCAGTTACCCCGACGCTGCGAGCCAGCTGGACATACCCTGCCTCCTGG
213▶ S I L R P D P P Q G L R V E S V P G Y P R R L R A S W T Y P A S W
1301 CCGTGCCAGCCCACTTCTGCTCAAGTTCCGTTTGCAGTACCGTCCGGCGCAGCATCCAGCCTGGTCCAGGTGGAGCCAGCTGGACTGGAGGAGGTGA
247▶ P C Q P H F L L K F R L Q Y R P A Q H P A W S T V E P A G L E E V

XmaI (1445) XbaI (1455)
1401 TCACAGATGCTGTGGCTGGGCTGCCCATGCTGTACGAGTCAGTGCCTGGGACTTTCTAGATGCTGGCACCTGGAGCACCTGGAGCCCGAGGCTGGGG
280▶ I T D A V A G L P H A V R V S A R D F L D A G T W S T W S P E A W G

Bsu36I (1573)
1501 AACTCCGAGCACTGGGACCATAACAAAGGAGATACCAGCATGGGGCCAGTACACACGCAGCCAGAGGTGGAGCCTCAGGTGGACAGCCCTGCTCCTCCA
313▶ T P S T G T I P K E I P A W G Q L H T Q P E V E P Q V D S P A P P

XmnI (1679)
1601 AGGCCCTCCCTCAACCACACCCTCGGCTACTTGATCACAGGGACTCTGTGGAGCAGGTAGCTGTGCTGGCGTCTTTGGGAATCCTTTCTTTCTGGGAC
347▶ R P S L Q P H P R L L D H R D S V E Q V A V L A S L G I L S F L G
1701 TGGTGGCTGGGGCCCTGGCACTGGGGCTCTGGCTGAGGCTGAGACGGGGTGGGAAGDGGATCCCCAAAGCTGGGTTCTTGGCCTCAGTGATTCCAGT
380▶ L V A G A L A L G L W L R L R R G G K D G S P K P G F L A S V I P V

MscI (1849)
1801 GGACAGGCGTCCAGGAGCTCAAACCTGTAGAGGACCCAGGAGGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGA
413▶ D R R P G A P N L •

PshAI (1801) NheI (1843)
1901 ATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAAACAAGTTAAACAACAACCAATTGCA
2001 TTCATTTTATGTTTCAGGTTTCAGGGGAGGTGTGGAGGTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTATGGAATTTAAAATACAGCATAGCA
2101 AAACCTTAACCTCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTG

EcoRI (2077)
2201 CAGCCTCACCTTCTTTCATGGAGTTTAAAGATATAGTGTATTTTCCAAGTGTGAACTAGCTTCTCATTCTTTATGTTTTAAATGCACTGACCTCCAC
2301 ATTCCCTTTTGTAGTAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAAATAATGTTTTTATTAGGCAGAAATCCAGATGCTCAAGGCCCTTC

SspI (2316) SmaI (2330)

2401 ATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTAAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGT
141 • N R T Y

2501 ACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCT
136 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 R

BstXI (2620)

2601 GCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGCTTCTGCCCGTTG
103 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

2701 CTCACAGCAGACCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCTCAATGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCC
69 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 R

XmnI (2897)

2801 TGATGGCCGCCCGACATGGTGTCTTGTCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAA
36 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 F

BbsI (2901) AseI (2963)

2901 GGTCTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCT
3 T K M

3001 IATCTGACGGTTCATAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTT

SpeI (3118)

3101 GGAAAGTCCCCTTGATTTACTAGTCAAAAACAACTCCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCCAT

SnaBI (3246)

3201 TGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCCATAAGGTCATGTACTGGGCATA

NdeI (3351)

3301 ATGCCAGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCGAGTTTACCGTAAATAC

3401 TCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCAATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTCAGCCAG

PacI (3537)

PstI (3530)

SdaI (3529) BspLU11I (3547)

3501 GCGGGCCATTTACCGTAAGTTATGTAACGCTGCAGGTTAATTAAAGAACATGTGAGCAAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGGCCGCGTTG
CTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGG

3601

3701 CGTTTCCCCTGGAAAGCTCCCTCGTGCGCTCTCCTGTTCGACCCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTTC

ApaLI (3861)

3801 TCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTGCTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTCCAGCCCAGCGCTGCGCCTTA

3901 TCCGGTAACTATCGTCTTGAGTCCAACCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGCGG

4001 GTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAG

4101 AGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTGTGTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAA

EagI (4297)

PacI (4277) SwaI (4286) NotI (4296)

4201 GATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGG

4301 CCGCAATAAAATATCTTTATTTTATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAAC

4401 AAAGTAGCAAAATAGGCTGTCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTATCGAA