



PvuI (7) SgfI (6) MfeI (82)
1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
101 GAGAAAGTGGCGGGGTAACGGAAAGTGTGCTGTACTGGTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) HindIII (245) Bsu36I (291)
201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCCTTACGCGCCCGCCCTACCTGAGGCC
301 GCCATCCACGCGGTTGAGTCGCGTTTCTGCCGCCTCCCGCTGTGGTGCCTCCTGAAGTGCCTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMI (441) NaeI (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTGGCTGACCCTGCTTGTCAACTCTACGCTTTTGTTCGTTT

KasI (535) AgeI (552) SphI (560)
501 TCTGTTCTGCGCGTTACAGATCCAAGCTGTGACCGCGCGCTACCTGAGATCACCGGTCAGCATGCCCTCAACGTGAACCTCACCAACAGGAACATGA
601 CCTCGACTACGACTCCGTACAGCCCTATTTTCATCTGCGACGAGGAAGAGAATTTCTATCACCAGCAACAGCAGAGCGAGCTGCAGCCGCCCGCCAGT
13▶ L D Y D S V Q P Y F I C D E E E N F Y H Q Q Q Q S E L Q P P A P S

EcoRV (703)
701 GAGGATATCTGGAAGAAATTCGAGCTGCTTCCACCCCGCCCTGTCCCGAGCCGCCGTCCGGGCTGCTCTCCATCCTATGTTGCGGTGCGTACGT
47▶ E D I W K K F E L L P T P P L S P S R R S G L C S P S Y V A V A T
801 CCTTCTCCCAAGGAAGACGATGACGGCGGGTGGCAACTTCTCCACCCGCGATCAGCTGGAGATGATGACCGAGTTACTTGGAGGAGACATGGTAA
80▶ S F S P R E D D D G G G G N F S T A D Q L E M M T E L L G G D M V N
901 CCAGAGCTTCATCTGCGATCCTGACGACGAGACCTTCAAGAACATCATCATCCAGGACTGTATGTGGAGCGGTTTCTCAGCCGCTGCCAAGCTGGTC
113▶ Q S F I C D P D D E T F I K N I I I Q D C M W S G F S A A A K L V

BssHII (1027) SacII (1059) SdaI (1095)
1001 TCGGAGAAGCTGGCCTCCTACCAGGCTGCGCGCAAAGACAGCACCAGCCTGAGCCCGCCCGGGCACAGCGTCTGCTCCACCTCCAGCCTGTACTGC
147▶ S E K L A S Y Q A A R K D S T S L S P A R G H S V C S T S S L Y L
1101 AGGACCTCACCGCCGCGTCCGAGTGCAATTGACCCCTCAGTGGTCTTTCCCTACCCGCTCAACGACAGCAGCTCGCCAAATCCTGTACTCGTCCGA
180▶ Q D L T A A A S E C I D P S V V F P Y P L N D S S S P K S C T S S D
1201 TTCCACGGCTTCTCTCCTTCTCGGACTCGTGTCTCCTCCGAGTCTCCACCGGCCAGCCCTGAGCCCTAGTGTGATGAGGAGACACCGCC
213▶ S T A F S P S S D S L S L S E S S P R A S P E P L V L H E E T P P
1301 ACCACCAGCAGCAGCTCTGAAGAAGCAAGAAGTGAAGAAGAAATTTGATGTGTGTGTGGAGAAGAGCAAAACCCCTGCCAAGAGGTCGGAGTCGG
247▶ T T S S D S E E E Q E D E E E I D V V S V E K R Q T P A K R S E S
1401 GCTCATCTCCATCCGAGGCCACAGCAAACCTCCGACAGCCACTGGTCTCAAGAGGTGCCAGTCTCCACTCACCAGCACAACCTACGCCACCCCC
280▶ G S S P S R G H S K P P H S P L V L K R C H V S T H Q H N Y A A P P
1501 CTCACAAGGAAGGACTATCCAGCTGCCAAGAGGGCAAGTTGGACAGTGGCAGGCTCTGAAGCAGATCAGCAACAACCGCAAGTGTCCAGCCCGAG
313▶ S T R K D Y P A A K R A K L D S G R V L K Q I S N N R K C S S P R
1601 TCCTCAGACACGGAGGAAAACGACAAGAGGCGGACACACAACGTCTTGAACGTGAGAGGAGAACGAGCTGAAGCGCAGCTTTTTTGCCTGCGTGACC
347▶ S S D T E E N D K R R T H N V L E R Q R R N E L K R S F F A L R D
1701 AGATCCCTGAATTGAAAACAACGAAAAGGCCCCCAAGGTAGTGATCCTCAAAAAAGCCACCGCTACATCCTGTCCATTCAAGCAGACGAGCACAAGCT
380▶ Q I P E L E N N E K A P K V V I L K K A T A Y I L S I Q A D E H K L

BstBI (1862) BspEI (1882)
1801 CACCTCTGAAAAGGACTTATTGAGGAAACGACGAGAACAGTTGAAACACAAACTCGAACAGTTCGAAACTCTGGTGCAGAGTCCGGAGGGGGTGGCTCT
413▶ T S E K D L L R K R R E Q L K H K L E Q L R N S G A E S G G G G S

Tth111I (1907) KasI (1928) BamHI (1939) NdeI (1979)
1901 CCTGGCAGACGTCGTCGCGCAGACGCAGGCGCCCGCGGATCCTATCCCTATGATGTGCCAGACTATGCTGGCTATCCATATGATGTTCTGATTATG
447▶ P G R R R R R R R R R R R R G S Y P Y D V P D Y A G Y P Y D V P D Y

MscI (2042) NheI (2036)
2001 CTGGATACCCCTTATGATGTGCCAGACTATGCCTAAAGCTAGCTGGCAGACATGATAAGATACATTGATGAGTTTGGACAACCACAACCTAGAATGCAGT
480▶ A G Y P Y D V P D Y A •

HpaI (2174) MfeI (2185)
2101 GAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAACAACAACATTGCATTCATTT

EcoRI (2270)
2201 TATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTTACAAATGTGGTATGGAATCTAAAATACAGCATAGCAAACTTT
2301 AACCTCAAATCAAGCCTCTACTTGAATCCTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTC
2401 ACCTTCTTTCATGGAGTTAAGATATAGTGATTTTTCCCAAGGTTTGAAGTACTCTTCAATTTCTTTATGTTTAAATGACTGACCTCCACATTCCCT

SspI (2509) Swal (2523)
2501 TTTTAGTAAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATAT
2601 CCCCAGTTTAGTGTGGACTTAGGGAACAAAGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAG
141▶ • N R T Y K L

SacI (2784)
2701 GGGGATGAGTTCTCAATGGTGGTTTTGACCAGCTTGCATTCTCAATGAGCACAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGCACATG
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 (2813)
 2801 CCACAGGGGCTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAAAGTCCTTCTGCCGTTGCTCACAG
 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 (2948)
Eco147I (2948)
 2901 CAGACCCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGTCCTGATGGC
 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

BspHI (3098)
 3001 CGCCCCGACATGGTGCTTGTTCCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTC
 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

VspI (3156)
AseI (3156)
 3101 ATGATGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCAGCTTATCTGA
 0 M ←

SacI (3213)
 3201 CGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGT

SpeI (3311)
 3301 CCCGTTGATTTACTAGTCAAAAACAACTCCATTGACGTCAATGGGGTGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGT

SnaBI (3439)
Eco105I (3439)
 3400 ACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGGCATAATGCCA

NdeI (3544)
 3500 GCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACC
 3600 CATTGACGTCAATGGAAAGTCCCTATTGCGTTACTATGGAAACATACGTCATTATTGACGTCAATGGGCGGGGTCTGTTGGCGGTGAGCCAGCGGGC

SdaI (3722) **PacI (3730)** **BspLU11I (3740)**
 3700 CATTACCCTAAGTTATGTAACGCCTGCAGGTTAA TTAAGAACATGTGAGCAAAGCCAGCAAAGGCCAGGAACCGTAAAAAGGCCGCTTCTGCG
 3798 CGTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGACTATAAAGATACCAGGCGTT
 3898 TCCCCTGGAAGCTCCCTCGTGGCTCTCTGTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGGAAGCGTGGCGCTTCTCAT

ApaLI (4054)
 3998 AGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTCAGCCCGACCGCTGCGCCTTATCCG
 4098 GTAACATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGCGGTGC
 4198 TACAGAGTCTTTGAAGTGGTGGCCTAACACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTT
 4298 GGTAGCTCTTGATCCGGCAAACAACCCAGCTGGTAGCGGTGGTTTTTTGTTTGAAGCAGCAGATTACGGCAGAAAAAAGGATCTCAAGAAGATC

EagI (4490)
PacI (4470) **Swal (4479)** **NotI (4489)**
 4398 CTTTGATCTTTTCTACGGGCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCCG
 4498 AATAAAATATCTTTATTTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACATACGCTCTCCATCAAAAACAAAACGAAAACAAAACAAAC
 4598 TAGCAAAATAGGCTGTCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA