



PvuI (7)
SgfI (6) 1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
MfeI (82)

101 GAGAAAGTGGCGCGGGTAAACTGGAAAAGTGTGCTGTACTGGCTCCGCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245)

Psp1406I (203) 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTCACGCGCCGCCCTACCTGAGGGC
PvuII (239) **Bsu36I (291)**

301 GCCATCCACGCGGTTGAGTCGCGTTCTGCCGCTCCCGCTGTGGTGCTCCTGAACTGCGTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTCCTGACCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

AgeI (552) BspLU11I (560)

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCTACCTGAGATCACCGTCAACATGTTTCAGCGTATTTGAGGAAATCACAAGAATTGTAGT
1▶ M F S V F E E I T R I V V

601 TAAGGAGATGGATGCTGGAGGGGATATGATTGCCGTTAGAAGCCTTGTGATGCTGATAGATTCCGCTGCTCCATCTGGTGGGGGAGAAGAGAACTTTC
 13▶ K E M D A G G D M I A V R S L V D A D R F R C F H L V G E K R T F

NgoMIV (707) StuI (723)

701 TTTGGATGCCGCACTACACAACAGGCCTCACCTGATGGACATTCTGGACACAGATGGGACAAGTGGTTAGATGAACTGGATTCTGGGCTCCAAGGTC
 47▶ F G C R H Y T T G L T L M D I L D T D G D K W L D E L D S G L Q G

801 AAAAGGCTGAGTTCAAATTCGATAATGTAGACTCAACGGGAGAGTTGATGATGATTACCCAAAGAAATAACAATTTCCAGGCTTTCCAGGGCTT
 80▶ Q K A E F Q I L D N V D S T G E L I V R L P K E I T I S G S F Q G F

901 CCACCATCAGAAAATCAAGATATCGGAGAACCAGATATCCAGCAGTATCTGGCTACCTTGAACAGGAAGCTGAAGAGGGAACCTACCTTTTCATTC
 113▶ H H Q K I K I S E N R I S Q Q Y L A T L E N R K L K R E L P F S F

AseI (1006)

1001 CGATCAATTAATACGAGAGAAAACCTGTATCTGGTGACAGAACTCTGGAGACGGTAAAGGAGGAAACCTGAAAAGCGACCGGCAATATAAATTTTGGAA
 147▶ R S I N T R E N L Y L V T E T L E T V K E E T L K S D R Q Y K F W

BglII (1103) **BbsI (1198)**

1101 GCCAGATCTCTCAGGGCCATCTCAGCTATAAACACAAGGGCCAAAGGGAAGTACCATCCCCCAAATCGGGTCTGAGCTATCGAGTAAAGCAGCTTGT
 180▶ S Q I S Q G H L S Y K H K G Q R E V T I P P N R V L S Y R V K Q L V

SspI (1222)

1201 CTTCCCCAACAGGAGACGATGAATATTCATTTAGGGGCAAAAACAAATCCTTTCCAGAAGAGAAGGATGGTGCTTCATCCTGTTTAGGAAAGTCTTTG
 213▶ F P N K E T M N I H F R G K T K S F P E E K D G A S S C L G K S L

1301 GGTTCCGAGGATCCAGAAAACATGAAGGAGAAGTTGGAGGACATGGAGAGTGTCTCAAGGACCTGACAGAGGAGAAGAGAAAAGATGTGCTAAACTCCC
 247▶ G S E D S R N M K E K L E D M E S V L K D L T E E K R K D V L N S

XbaI (1437)

1401 TCGTAAGTGCCTCGGCAAGGAGATATTCGGCAGGATCTAGAGCAAAGATATCTGAGGTCCTGATTTCCGGGGAGCTACACATGGAGGACCCAGACAA
 280▶ L A K C L G K E D I R Q D L E Q R V S E V L I S G E L H M E D P D K

SapI (1597)

1501 GCCTCTCCTAAGCAGCCTTTTTAATGCTGCTGGGGTCTTGGTAGAAGCGCTGCAAAAGCCATTCTGGACTTCTGGATGCCCTGCTAGAGCTGTCTGAA
 313▶ P L L S S L F N A A G V L V E A R A K A I L D F L D A L L E L S E

SandI (1633)

1601 GAGCAGCAGTTTGTGGCTGAGGCCCTGGAGAAGGGACCTTCTCTGTTGAAGGACCAGGTGAAATCTGTCTGAGGACGAACTGGGATGAGCTGGCCA
 347▶ E Q Q F V A E A L E K G T L P L L K D Q V K S V M E Q N W D E L A

Bsu36I (1726) EcoRI (1736)

1701 GCAGTCTCCTGACATGGACTATGACCTGAGGCACGAATCTCTGTGCGCTGTATGTTGTTGTCTATCCTGCTGGAGCTGGTGAGGGGCTACCTC
 380▶ S S P P D M D Y D P E A R I L C A L Y V V V S I L L E L A E G P T S

NheI (1835)

BstXI (1832)

1801 TGTCTCTTCTAACTACAAAAGCCCTTCTCCCAGCTAGTGGCCAGACATGATAAGATACATTGATGAGTTTGACAAACCACAACCTAGAATGCAGTG
 413▶ V S S •

HpaI (1973) MfeI (1984)

1901 AAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAATTGCATTCATTTT

EcoRI (2069)

2001 ATGTTTCAGGTTCCAGGGGAGGTGTGGGAGTTTTTAAAGCAAGTAAACCTCTACAATGTGGTATGGAATTCTAAAATACAGCATAGCAAACTTTA
▶ ←

2101 ACCTCAAATCAAGCCTCTACTTGAATCCTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTCAGCCTCA

SapI (2251)

2201 CCTCTTTTCATGGAGTTAAGATATAGTGTATTTCCCAAGGTTTGAAGTGTCTTCAATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCTT

SspI (2308) SwaI (2322)

2301 TTTAGTAAAATATTCAGAAAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATAC

2401 CCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAGG
141 • N R T Y K L

SacI (2583)

2501 GGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCACTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGC
133 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 G

BstXI (2612)

2601 CACAGGGGCTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGC
100 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 (2747)

2701 AGACCCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGTCTGTATGGCC
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

BbsI (2893)

XmnI (2889)

2801 GCCCCGACATGGTGTGTTGTCTCATAGAGCATGGTGTCTCTCAGTGGCGACCTCCACCAGTCCAGATCTGTGAGAGATGTTGAAGGTCTTCA
33 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 M

AseI (2955)

2901 TGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCAGCTTATCTGAC
0

SacI (3012)

3001 GGTTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTC

SpeI (3110)

3101 CCGTTGATTTACTAGTCAAAAACAACTCCATTGACGTCAATGGGGTGGAGACTTGGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTAC

SnaBI (3238)

3201 TGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGG

NdeI (3343)

3301 CGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCCA

3401 TTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTGAGCCAGCGGGCCA

PacI (3529)

PstI (3522)

SdaI (3521)

BspLU11I (3539)

3501 TTTACCGTAAGTTATGTAACGCTGCAGGTTAATTAAGAACATGTGAGCAAAAGGCCAGGAAACCGTAAAAAGGCCGCTTGTGGCGTT
141 • N R T Y K L

3601 TTTCCATAGGCTCCGCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGCGTTTCCC

3701 CCTGGAAGCTCCCTCGTGCCTCTCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTCGGGAAGCGTGGCGCTTTCTCATAGCT

ApaLI (3853)

3801 CACGCTGTAGGTATCTCAGTTCGGTGTAGGTGCTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTCCAGCCGACCGCTGCGCCTTATCCGGTAA

3901 CTATCGTCTTGTAGTCCAACCCGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACA

4001 GAGTTCCTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTA

4101 GCTCTTGATCCGGCAACAAACCACCGCTGGTAGCGGTGGTTTTTTTGTGTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTT

EagI (4289)

PacI (4269) SwaI (4278) NotI (4288)

4201 GATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAACTCAGTAAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGCAATA

4301 AAATATCTTTATTTTATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAAACTAGC

4401 AAAATAGGCTGTCCCGTGAAGTGCAGGTGCCAGAACATTTCTCTATCGAA