



PvuI (7)
SgfI (6) 1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA

MfeI (82)
101 GAGAAAGTGGCGCGGGTAAACTGGAAAAGTATGTCGTGTACTGGCTCCGCCTTTTTCCGAGGGTGGGGGAGAACCGTATATAAGTGCAGTAGTCGCC

HindIII (245)
Psp1406I (203) 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACAGCGCCCGCCGCTACCTGAGGGC

PvuII (239) 301 GCCATCCACGCCGGTTGAGTCGGCTTCTGCCGCTCCCGCTGTGGTGCCTCCTGAATGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

Bsu36I (291)

NgoMIV (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTCCTGACCTGCTTCTCAACTCTACGCTTTTGTTCGTTT

AgeI (552)
501 TCTGTTCTGCCCGTTACAGATCCAAGCTGTGACCGGGCGCTACCTGAGATCACCGGTAGGAGGGCCATCATGGCTGCAGGAGTCCC GGCGCGGGGTCT

601 GCGGCCCCGGTCTCCTCCACATCCTCCCTCCCTGGCTGCTCAACATGCGAGTGGCGCGCCGCTGTCTGTCTTGAACGTGCGGACACAGGTGG
11▶ A A P V S S T S S L P L A A L N M R V R R R L S L F L N V R T Q V
1▶ M A A G G P G A G S

EagI (700) 701 CCGCCGACTGGACCGCTGGCGGAGGAGATGGACTTTGAGTACTTGAGATCCGGCAACTGGAGACACAAGCGGACCCACTGGCAGGCTGCTGGACGC
44▶ A A D W T A L A E E M D F E Y L E I R Q L E T Q A D P T G R L L D A

ScaI (739)
801 CTGGCAGGACGCCCTGGCGCTCTGTAGGCCACTGCTCGACTGCTTACCAAGCTGGCGCGGACGACGTGCTGCTGGAGCTGGGACCCAGCATTGAG
77▶ W Q G R P G A S V G R L L E L L T K L G R D D V L L E L G P S I E

SandI (884) 901 GAGGATGCCAAAAGTATATCTTGAAGCAGCAGCAGGAGGCTGAGAAGCCTTTACAGGTGGCCGCTGTAGACAGCAGTGTCCACGGACAGCAGAGC
111▶ E D C Q K Y I L K Q Q Q E E A E K P L Q V A A V D S S V P R T A E

1001 TGGCGGCATCACCACACTTGATGACCCCTGGGCATATGCCTGAGCGTTTCGATGCCTTCTGCTATTGCCACGACATCCAGTTTGTGCAGGA
144▶ L A G I T T L D D P L G H M P E R F D A F I C Y C P S D I Q F V Q E

1101 GATGATCGGCAACTGGAACAGACAACTATCGACTGAAGTTGTGTGTGCTGACCGCGACTGTCTGCCTGGCACCTGTGTGGTCTATTGCTAGTGAG
177▶ M I R Q L E Q T N Y R L K L C V S D R D V L P G T C V W S I A S E

1201 CTCATCGAAAAGAGGTGCCGCCGATGGTGGTGTCTCTGATGATTACCTGCAGAGCAAGGAATGTGACTTCCAGACAAATTTGCACTCAGCCTCT
211▶ L I E K R C R R M V V V V S D D Y L Q S K E C D F Q T K F A L S L

BsaBI (1325) 1301 CTCCAGGTGCCCATCAGAAGCGACTGATCCCCATCAAGTACAAGGCAATGAAGAAAAGTTCCCCAGCATCCTGAGGTTTCACTGTCTGCGACTACAC
244▶ S P G A H Q K R L I P I K Y K A M K K E F P S I L R F I T V C D Y T

XmnI (1352) 1401 CAACCCCTGCACCAAATCTTGGTTCTGGACTCGCCTTGCCAGGCCTTGTCCTGCCCGGATCCTATCCCTATGATGTGCCAGACTATGCTGGCTATCCA
277▶ N P C T K S W F W T R L A K A L S L P G S Y P Y D V P D Y A G Y P

BamHI (1458)

MscI (1561) 1501 TATGATGTTCTGATTATGCTGGATACCCTTATGATGTGCCAGACTATGCCTAAAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAA
311▶ Y D V P D Y A G Y P Y D V P D Y A •

NheI (1555)

HpaI (1693) 1601 ACCACAAC TAGAATGCAGTGA AAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACA

MfeI (1704) 1701 ACAACAATTGCATTCA TTTTATGTTTCAGGTT CAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTATGGAATTCTAAAA
1801 TACAGCATAGCAAACTTAACTCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGC

EcoRI (1789)

SapI (1971) 1901 ATTAGCTGTTGCAGCCTCACCTCTTTTATGAGTGAATATAGTGTATTTTCCCAAGGTTTGAAGTACTGCTCTTCAATTTCTTTATGTTTTAAATGCA

SspI (2028) 2001 CTGACCTCCACATTCCCTTTTATGATAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGC
2101 TCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTT
141▶ •

2201 AGTTCCTGGTGTACTTGGAGGGGATGAGTTCTCAATGGTGGTTTTGACCAGCTTGCATTCTCAATGAGCACAAGCAGTCAGGAGCATAGTCAGA
140▶ N R T 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

BstXI (2332) 2301 GATGAGCTCTGACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAAAGTCC
107▶ I L E 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

StuI (2467) 2401 TTCTGCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCAGCACAGACAGTACCCTGCCAATGTAGGCCCTCAATGTGGACAGCAGAGATGATCTCCC
73▶ 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 I H V A S I I E G

2501 CAGTCTTGGTCTGATGGCCGCCCGACATGGTGTGTTGTCCTCATAGAGCATGGTATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTG
40 T K T 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

BspHI (2617)

BbsI (2613)

XmnI (2609)

AseI (2675)

2601 AGAGATGTTGAAGGTCTTCATGATGGCCCTCTATAGTGAGTCGATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATG
7 S I N F T K M

2701 GCGTCTCCAGCTTATCTGACGGTTCACATAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGCGGGAGTTG

SpeI (2830)

2801 TTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAAAACAACTCCATTGACGTCAATGGGGTGAGACTTGAAATCCCGTGAGTCAAACCGCT

SnaBI (2958)

2901 ATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCAT

3001 GTACTGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCGATT

3101 TACCGTAAATACTCCACCATTGACGTCAATGGAAAGTCCTATTGGCGTTACTATGGGAACATACGTATTATTGACGTCAATGGGCGGGGGTCTGTTGG

PacI (3249)

SdaI (3241)

BspLU11I (3259)

3201 GCGGTCAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCTGCAGGTTAATTAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAA

3301 AAGGCCGCGTTGCTGGCGTTTTCCATAGGCTCCGCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTAT

3401 AAAGATACCAGGCGTTTTCCCTGGAAGCTCCCTCGTGCCTCTCCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCCTTTCTCCCTTCGGGAAG

ApaLI (3573)

3501 CGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTACGCCGAC

3601 CGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGA

3701 GGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTAC

3801 CTTGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAACACCGCTGGTAGCGGTGGTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAA

PacI (3989) SwaI (3998)

3901 GGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACAT

EagI (4009)

NotI (4008)

4001 TTAATCAGCGGCGCAATAAAAATATCTTTATTTTTCATTACATCTGTGTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAA

4101 ACGAAACAAAACAACTAGCAAATAGGCTGTCCCGAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA