



PvuI (7)
SgfI (6) 1 GGATCTGCGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA

101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTGTGCTGTACTGGCTCCGCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245)
Psp1406I (203) 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACCGCGCCGCCCTACCTGAGGCC

PvuII (239) 301 GCCATCCACGCCGGTTGAGTCGCGTTTCTGCCGCTCCCGCTGTGGTGCCTCCTGAACTGCGTCCCGCTTAGGTAAGTTTAAAGCTCAGGTCGAGACC

Bsu36I (291)

NgoMIV (441)
 401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCAGCTTTGCCTGACCTGCTTCTCAACTCTACGCTTTTGTTCGTTT

AgeI (552)
 501 TCTGTTTCTGCCCGTTACAGATCCAAGCTGTGACCGGGCGCTACCTGAGATCACCGGTATCATGAAGTCTTGGCCGAGGGATTGTGCCCTTACTGCT

601 GCTGGTTCTGCACTGAAACACGGGACGGGAGCCCTTCCCATCACCCCTGTAATGCCACCTGTCCATACGCCACCCATGCCACGGCAACCTCATG

701 AACCAGATCAAGAATCAACTGGCACAGCTCAATGGCAGCGCAATGCTCTTCTTCTTATACACAGCTCAAGGGGAGCCGTTTCCCAACAACGTGG

801 AAAAGCTATGTGCGCCTAACATGACAGACTTCCATCTTTCCATGGCAACGGGACAGAGAAGCAAGTTGGTGGAGCTGTATCGGATGGTCGCATACCT

1301 M K V L A A G I V P L L L
 131 L V L H W K H G A G S P L P I T P V N A T C A I R H P C H G N L M
 132 N Q I K N Q L A Q L N G S A N A L F I S Y Y T A Q G E P F P N N V

BbsI (858)
 801 E K L C A P N M T D F P S F H G N G T E K T K L V E L Y R M V A Y L

XmaI (923)
 901 GAGCGCTCCCTGACCAATATCACCCGGGACCAAGGTCCTGAACCCACTGCCGTGAGCCTCAGTCAAGCTCAATGCTACTATAGACGTCATGAGG

1101 S A S L T N I T R D Q K V L N P T A V S L Q V K L N A T I D V M R

BbrPI (1051)
 1001 GGCCTCCTCAGCAATGTGCTTTGCCGTCTGTGCAACAAGTACCGTGTGGGCCACGTGGATGTGCCACCTGTCCCCGACCCTCTGACAAAGAAGCCTTCC

147 G L L S N V L C R L C N K Y R V G H V D V P P V P D H S D K E A F

XbaI (1169)
StuI (1163)
 1101 AAAGGAAAAAGTTGGGTTGCCAGCTTCTGGGGACATACAAGCAAGTCATAAGTGTGGTGGTCCAGGCTTCTAGAGAGGAGGTCTTGAATGTACCATGGA

180 Q R K K L G C Q L L G T Y K Q V I S V V V Q A F •

MseI (1218)
NheI (1212)
 1201 CTGAGGGACCTCGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAATAAATGCTTTATTTGTGAAA

HpaI (1350) **MfeI (1361)**
 1301 TTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAACAAATGCATTATTTATGTTTCAGGTTTCAGGGGGAGGT

EcoRI (1446)
 1401 GTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAATGTGGTATGGAATTCTAAAATACAGCATAGCAAACTTTAACCTCCAAATCAAGCCTCTACTT

1501 GAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTGCAGCCTCACCTTCTTCATGGAGTTAAGAT

SapI (1628) **SspI (1685)** **SwaI (1699)**
 1601 ATAGTGTATTTTCCCAAGTTTGAAC TAGCTCTTCAATTTCTTTATGTTTTAAATGCACTGACCTCCCACATTCCTTTTGTAGTAAAATATTAGAAAATA

1701 TTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTCATAATATCCCCAGTTTAGTAGTTGGACTTA

1801 GGGAAACAAGAACCTTAAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTGGT

141 • N R T Y K L P I L E E I T T

SacI (1960)
 1901 TTTGACCAGCTTGCCATTCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGCACATGCCACAGGGGCTGACCACCTGATG

126 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 C P S V V R I

2001 GATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCCGTGTCTCAGCAGACCAATGGCAATGGCTTCAG

92 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 S G I A I A E A

StuI (2124)
 2101 CACAGACAGTGACCCTGCCAATGTAGGCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGTCTTGTGTC

59 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 A G V H H K N D

BbsI (2270)
XmnI (2266)
 2201 CTCATAGAGCATGGTGTCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGCTTTCATGGTGGCCCTCTATAGTGAGTC

26 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 (2332) **SacI (2389)**
 2301 GTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCATAACGAGCTCTGCTT

SpeI (2487)

2401 ATATAGACCTCCCACCGTACACGCCTACGCCCATTTGCGTCAATGGGGCGGAGTTGTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAAAACA



2501 AACTCCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGT

SnaBI (2615)

2601 AATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCCATAAGGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACG

NdeI (2720)

2701 TCAATAGGGGGCGTACTTGCCATATGATACACTTGATGTACTGCCAAGTGGGCGAGTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTA

PstI (2899)

SdaI (2898)

2801 TTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGGTCTGTTGGGCGGTACGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCC

PacI (2906)

BspLU111 (2916)

2901 TGCAGGTTAATAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGGCGTTTTTCCATAGGCTCCGCCCCCTG



3001 ACGAGCATCACAAAATCGACGCTCAAGTCAGAGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTTCCCTGGAAGCTCCCTCGTGGCGTC

3101 TCCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGGAAGCGTGGCGCTTTCTCATAGCTCAGCTGTAGGTATCTCAGTTCC

ApaLI (3230)

3201 GTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTCAGCCGACCCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGG

3301 TAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGTACAGAGTCTTGAAGTGGTGGCCTAA

3401 CTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAACAAACC

3501 ACCGCTGGTAGCGGTGGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTCTACGGGGTCTGACG

EagI (3666)

PacI (3646) SmaI (3655) NotI (3665)

3601 CTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGCAATAAATATCTTTATTTTCATTACAT

3701 CTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCCAGTGCAA

3801 GTGCAGGTGCCAGAACATTTCTCTATCGAA