



PvuI (7)
SgfI (6) 1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
MfeI (82)
101 GAGAAGTGGCGCGGGTAAACTGGAAAGTGTGTCGTGTAAGTGGTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245)
Psp1406I (203) 201 GTGAACGTTCTTTTTCGCAACGGGTTTGGCCGAGAACACAGCTGAAGCTTCAGAGGGCTCGCATCTCTCTTACAGCGCCCGCCGCTACCTGAGGCC
PvuII (239)
301 GCCATCCACGCGGTTGAGTCGCGTTTCTGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCGGCTCTCCACGCTTGGCTGACCCTGTTGCTCAACTCTACGCTTTTGTTCGTTT

KasI (535) 501 TCTGTTCTGCGCGGTTACAGATCCAAGCTGTGACCGCGCGCTACCTGAGATCACCGGTCATCATG AGTGTGGGTCTTCTGGTCCCCACAGTTTGCCTAG
AgeI (552) 1▶ M S V G L P G P H S L P S
BspHI (560)

EcoRI (615) 601 TTCTGAGGAAGCATCGAATTCTGGGAACGCTCATCAATGCCTGCAGTTTTTTCATCCCGAGAAGTATTCTTGCTTACAAGGGTGTGCTACTGAGATGCTC
13▶ S E E A S N S G N A S S M P A V F H P E N Y S C L Q G S A T E M L
701 TGCACAGAGGCTGCCTCTCCTCGCCCTTCTCTGAAGACTGCCTCTTCAAGGACGCGCTGATTCTTACCAGTCCCAAACAAAGCTCTCAAGTCTCTG
47▶ C T E A A S P R P S S E D L P L Q G S P D S S T S P K Q K L S S P

Bsp120I (810) 801 AGGCTGACAAGGGCCCTGAGGAGGAGGAGAACAAGTCTTGGCAGGAAGCAGAAGATGCGGACTGTGTTCTCTCAGGCCAGCTGTGTGCATCAAGGA
80▶ E A D K G P E E E E N K V L A R K Q K M R T V F S Q A Q L C A L K D
901 CAGGTTTCAAGCAGAAGTACCTCAGCCTCCAGCAGATGCAAGAAGTCTCTCCATTCTGAAGTGCAGTATAAGCAGGTTAAGACCTGGTTTCAAAA
113▶ R F Q K Q K Y L S L Q Q M Q E L S S I L N L S Y K Q V K T W F Q N

BstAPI (849) 1001 CAAAGGATGAAGTGAAGCGGTGGCAGAAAAACAGTGGTTGAAGACTAGCAATGGTCTGATTGAGGAGGCTCAGCACCAGTGGAGTATCCAGCATCC
147▶ Q R M K C K R W Q K N Q W L K T S N G L I Q K G S A P V E Y P S I
ApaLI (887)

XmnI (1139) 1101 ATTGCAGTATCCCGAGGCTATCTGGTGAACGCATCTGGAAAGCCTTTCATGTGGGCGAGCCAGACTTGGACCAACCCAACTTGGAGCAGCCAGACCTG
180▶ H C S Y P Q G Y L V N A S G S L S M W G S Q T W T N P T W S S Q T W

StuI (1253) 1201 GACCAACCAACTTGAACAACCCAGACCTGGACCAACCAACTTGGAGCAGCCAGGCTGGACCGCTCAGTCTTGAACGGCCAGCCTTGAATGCTGCT
213▶ T N P T W N N Q T W T N P T W S S Q A W T A Q S W N G Q P W N A A
BsrBI (1262)

BsrBI (1300) 1301 CCGCTCCATAACTCGGGGAGGACTTTCTGCAGCCTTACGTACAGTTGCAGCAAACTTCTCTGCCAGTGATTTGGAGGTGAATTTGGAAGCCACTAGGG
247▶ P L H N F G E D F L Q P Y V Q L Q Q N F S A S D L E V N L E A T R
SnaBI (1336)
BstXI (1364)

FspI (1407) 1401 AAAGCCATGCGCATTTTATGACCCCAACAAGCCTTGAATTATTCTGAACTACTCTGTGACTCCACCAGGTGAAATATGAGACTTACGCAACATCTGGGC
280▶ E S H A H F S T P Q A L E L F L N Y S V T P P G E I •
DraIII (1463)

MscI (1509) 1501 TTAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAACCAACTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATG
NheI (1503)

HpaI (1641) 1601 CTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAAGTTAAACAACAACAAATTGCATTCTTTTATGTTTCAGGTTTCAGGGGGAGGTGTGGGAGGT
MfeI (1652)

EcoRI (1737) 1701 TTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTTAAAATACAGCATAGCAAACTTTAACCTCCAATCAAGCCTCTACTTGAATCCTTT
1801 TCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTTATGGAGTTTAAAGATATAGTGTAT

SapI (1919) 1901 TTTCCAAGGTTTGAAGTACTCTTCTTCTTTATGTTTAAATGCACTGACCTCCACATTCCTTTTATGAAAAATTCAGAAAATAATTTAAATAC
2001 ATCATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAA
2101 GGAACCTTAATAGAAATGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAG
141▶ • N R T Y K L P I L E E I T T K V L

SacI (2251) 2201 CTTGCCATTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCC
123▶ 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 S R D
BstXI (2280)
2301 ACCTCATCAGAGTAGGGGCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCCAGCAGACAG
89▶ 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 C V T

StuI (2415) 2401 TGACCCTGCCAATGTAGGCTCAATGTGGACAGCAGAGATGATCTCCAGTCTTGGTCTGATGGCCGCCCCGACATGGTGGCTTGTGCTCATAGAG
56▶ 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 E Y L

XmnI (2557) 2501 CATGGTATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTTCTCATGGTGGCCCTCTATAGTGAAGTCTGATTATAC
23▶ M T I K E T A V E V L E L D Q Q S I N F T K M

2601 TATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCACTAAACGAGCTCTGCTTATATAGACC
AseI (2623) SacI (2680)

2701 TCCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAACAAACTCCCAT
SpeI (2778)

2801 TGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGAT

2901 GACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCCATAAAGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGG
SnaBI (2906)

3001 GGCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTA
NdeI (3011)

3101 CTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTACGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCTGCAGGTTA
SdaI (3189) PacI (3197)

3201 ATTAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATC
BspLU11I (3207)

3301 ACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCTGGAAGCTCCCTCGTGCGCTCTCTGTTC
3401 GACCTGCCGCTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTC

3501 GTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTCAGCCCGACCGCTGCGCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACG
ApaLI (3521)

3601 ACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTA
3701 CACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAACCCACCGCTGGT
3801 AGCGGTGGTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGGA

3901 ACGAAAACACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCGAATAAAAATATCTTTATTTTTCATTACATCTGTGTGT
EagI (3957)
PacI (3937) SwaI (3946) NotI (3956)

4001 GGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCCAGTGCAAGTGCAGGTG
4101 CCAGAACATTTCTCTATCGAA