



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

101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) **HindIII (245)** **Bsu36I (291)**
201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACGCGCCCGCCCTACCTGAGGCC

301 GCCATCCACGCCGGTTGAGTCGCGTTTCTGCCGCCTCCCGCCTGTGGTGCCTCCTGAAGTGCCTCCGCCGTCTAGGTAAGTTAAAGCTCAGGTCGAGACC

NgoMI (441)
NaeI (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTAACTCTACGCTTTGTTTCGTTT

NcoI (560)
BstEII (555)
KasI (535) **AgeI (552)**
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCCTACCTGAGATCACCGGTCCACCATGGAGGGTCTAAGCGTCCAGCAGCACCATGCAGGT 1 M E G S K A S S S T M Q V
BstEII (666)

Eco47III (614) **Tth11II (661)**
601 GAGCTTCGTGTGCCAGCGCTGTAGCCAGCCTCTGAAACTGGACACGAGCTTCAAGATCCTGGACCGGGTACCATCCAGAACTCACAGCTCCATTACTT
13 S F V C Q R C S Q P L K L D T S F K I L D R V T I Q E L T A P L L
701 ACCACAGCCAGGCGAAACCAGGAGAGACCCAGGAGGAAGAGGCTAACTCAGGAGAGGAGCCATTTATTGAAACTCGCCAGGATGGTGTCTCTCGAAGAT
47 T T A Q A K P G E T Q E E E A N S G E E P F I E T R Q D G V S R R

NcoI (878)
801 TCATCCCCCAGCCAGGATGATGTCTACAGAAAGTGCTAATAGCTTCACTCTGATCGGGGAGGCATCTGATGGTGGCACCATGGAGAACCCTCAGCCGGAG
80 F I P P A R M M S T E S A N S F T L I G E A S D G G T M E N L S R R

BsiBI (946)
901 ACTCAAGTCACTGGAGACCTGTTTACATCATGTGCGGCCAGACCGATGTGGATCACCCGCTGTGTGAGGAATGCACAGACACTTTTTAGACCAGCTG
113 L K V T G D L F D I M S G Q T D V D H P L C E E C T D T L L D Q L

PstI (1093)
1001 GACTCAGCTCAATGTCACTGAGAATGAATGTCAGAACTACAAACGCTGTTTGGAGATCCTAGAGCAGATGAATGAGGATGACAGTGCAGCTGCAGA
147 D T Q L N V T E N E C Q N Y K R C L E I L E Q M N E D D S E Q L Q
1101 GGGAGCTGAAGGAGCTGGCCTTGAGGAGGAGAGGCTGATCCAGGAGCTGGAAGATGTGAAAAGAACCAGGAGGTTGGCAGAGAACCCTGGAGAAGGT
180 R E L K E L A L E E E R L I Q E L E D V E K N R K V V A E N L E K V
1201 CCAGGCTGAGGCGGAGAGATTGGACCAGGAGGAAGCTCAGTACCAGCGGGAGTATAGTGAATTTAAAAGGCAGCAGCTGGAGTTGGATGACGAACTCAAG
213 Q A E A E R L D Q E E A Q Y Q R E Y S E F K R Q Q L E L D D E L K

SexAI (1310)
1301 AGTGTGGAGAACCAGGTGCGCTACGCCAGATCCAGCTGGACAAGCTCAAGAAAACCAATGTCTTCAATGCCACCTTCCACATCTGGCACAGCGGACAGT
247 S V E N Q V R Y A Q I Q L D K L K K T N V F N A T F H I W H S G Q

Tth11II (1421) **XcmI (1436)**
1401 TTGGCACAATCAATAATTTACAGACTGGGTCGCTTGCCCACTGTTCTGTGGAGTGAATGAAATCAATGCTGCCTGGGCCAGACAGTCTGCTGCTCCA
280 F G T I N N F R L G R L P S V P V E W N E I N A A W G Q T V L L L H

BstXI (1508) **Asp718I (1535)** **XmnI (1556)**
MscI (1505) **Acc65I (1535)**
1501 TGCTTTGGCCAATAAGATGGGTCTGAAGTTTCAGAGGTACCGACTTGTCCCTATGGAATCAATCCTATCTGGAGTCTCTGACAGACAAATCTAAGGAG
313 A L A N K M G L K F Q R Y R L V P Y G N H S Y L E S L T D K S K E
1601 TTGCCGTTATACTGTTCTGGGGTTTGGGTTTTCTGGGACAACAAGTTTGACCATGCAATGGTAGCTTTTCTGGACTGTGTGCAGCAGTTCAAAGAAG
347 L P L Y C S G G L R F F W D N K F D H A M V A F L D C V Q Q F K E
1701 AGGTGGA AAAAGGAGAGACTCGATTTTGTCTTCCGTACAGGATGGACGTGGAGAAAAGGCAAGATTGAAGACACTGGAGGCAGTGGCGGCTCCTATCCAT
380 E V E K G E T R F C L P Y R M D V E K G K I E D T G G S G G S Y S I

Eco47III (1836)
1801 CAAAACCCAGTTAACTCGGAGGAGCAGTGGACAAAAGCGCTCAAGTTATGCTGACCAATCTCAAGTGGGGTCTTGCCCTGGGTGCCTCACAGTTCTAT
413 K T Q F N S E E Q W T K A L K F M L T N L K W G L A W V S S Q F Y

Bsu36I (1915) **NheI (1932)** **MscI (1938)**
1901 AACAAAGTACTGCTCCTTAGGGATGTTTGGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGACAAACCACAACCTAGAATGCAGTGAAA
447 N K •

HpaI (2070) **MfeI (2081)**
2001 AAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACCAAGTTAAACAACAACCAATTGCATTCTTTATG

EcoRI (2166)
2101 TTTCAGGTTACAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTTAAAATACAGCATAGCAAACTTTAACC

2201 TCCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTGCCAATGTGCATTAGCTGTTGCAGCCTCACCT

2301 TCTTCATGGAGTTAAGATATAGTGTATTTTCCCAAGTTTGAAGTACTGCTTTCATTCTTTATGTTTTAAATGCAGTACCTCCACATTCCTTTTT

SspI (2405) **SwaI (2419)** **EcoO109I (2480)**
2401 AGTAAAAATTCAGAAATAATTTAAATACATCATTGCAATGAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCC

2501 CAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATTGGACGACAAGAAAGCGAGCTTCTAGCTTTAGTTTCTGGTGTACTTGAGGGGG
141 • N R T Y K L P

SacI (2680)

2601 ATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCAC
132 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 C

BstXI (2709)

2701 AGGGGCTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAAAGTCCTCTGCCCGTTGCTCACAGCAGA
99 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 S

StuI (2844)

Eco147I (2844)

2801 CCCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGTCTGATGGCCGCC
66 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 A

BspHI (2994)

XmnI (2986)

2901 CCGACATGGTGCTTGTTCCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGA
32 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

VspI (3052)

AseI (3052)

3001 TGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGT

SacI (3109)

3101 TCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCG

SpeI (3207)

3201 TTGATTTACTAGTCAAAAACAACTCCATTGACGTCAATGGGGTGGAGACTTGAAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTG

SnaBI (3335)

Eco105I (3335)

3300 CAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGCG

NdeI (3440)

3400 GGCCATTTACCGTCATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGAGTTTACCGTAAATACTCCACCCATT

3500 GACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGCGGTCAGCCAGGCGGGCCATT

PstI (3619)

SdaI (3618) PacI (3626)

PciI (3636)

BspLU11I (3636)

3600 TACCGTAAGTTATGTAACGCCTGCAGGTTAA TTAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAGGCCGCGTTGCTGGCGTT

3698 TTTCCATAGGCTCCGCCCCCTGACGAGCATCAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCC

3798 CCTGGAAGCTCCCTCGTGCCTCTCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGGAAGCGTGGCGCTTTCTCATAGCT

ApaLI (3950)

3898 CACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTCAGCCGACCGCTGCGCCTTATCCGGTAA

3998 CTATCGTCTTGAGTCCAACCCGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACA

4098 GAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTA

4198 GCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTT

EagI (4386)

PacI (4366)

Swal (4375)

NotI (4385)

4298 GATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCGCAATA

4398 AAATATCTTTATTTTATTACATCTGTGTGTTGGTTTTTGTGTGAATCGTAACATAACGCTCTCCATCAAAAACAAAACGAAAACAAAACAACTAGC

4498 AAAATAGGCTGTCCCGTGAAGTGCAGGTGCCAGAATTTCTCTATCGAA