



PvuI (7)
SgfI (6) 1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
MfeI (82) **EcoNI (96)**
101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) **HindIII (245)** **Bsu36I (291)**
EcoNI (287) 201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACAGCGCCCGCCGCTACCTGAGGCC
301 GCCATCCACGCGGTTGAGTCGCGTTCTGCCGCTCCCGCCTGTGGTGCCTCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441) 401 GGGCCTTTGTCCGGCGCTCCCTTGAGCGCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTAACTCTACGCTTTTGTTCGTTT

KasI (535) **AgeI (552)** **NcoI (560)** 501 TCTGTTTGTCCGCGGTTACAGATCCAAGCTGTGACCGCGGCTACCTGAGATCACCGGTACCATTGGATTTCTCAGTAAAGGTAGACATAGAGAAGGAGGT
1 M D F S V K V D I E K E V

BstXI (608) 601 GACCTGCCCATCTGCCTGGAGCTCCTAACAGAACCTCTGAGCCTAGATTGTGGCCACAGCTTCTGCCAAGCCTGCATCACTGCAAAGATCAAGGAGTCA
13 T C P I C L E L L T E P L S L D C G H S F C Q A C I T A K I K E S
701 GTGATCATCTCAAGAGGGAAAGCAGCTGTCTGTGTGCAGACCAGATTCCAGCCTGGGAACCTCCGACCTAATCGGCATCTGGCCAACATAGTTGAGA
47 V I I S R G E S S C P V C Q T R F Q P G N L R P N R H L A N I V E

NcoI (858) 801 GAGTCAAAGAGGTCAAGATGAGCCACAGGAGGGGAGAGAGATGTCTGTGAGCACCATGGAAAAAACTCCAGATCTTCTGTAAGGAGGATGGAAA
80 R V K E V K M S P Q E G Q K R D V C E H H G K K L Q I F C K E D G K
901 AGTCAATTTGCTGGGTTTGTGAAGTGTCTCAGGAACACCAAGGTACCAAAACATTCGCATAAACGAGGTGGTCAAGGAATGTCAGGAAAAGTGCAGGTA
113 V I C W V C E L S Q E H Q G H Q T F R I N E V V K E C Q E K L Q V
1001 GCCCTGCAGAGGCTGATAAAGGAGGATCAAGAGGCTGAGAAGCTGGAAGATGACATCAGACAAGAGAGAACCCTGGAAGAATTATATCCAGATCGAGA
147 A L Q R L I K E D Q E A E K L E D D I R Q E R T A W K N Y I Q I E

XmnI (1113) 1101 GACAGAAGATTCTGAAAGGGTTCAATGAAATGAGAGTCATCTTGACAATGAGGAGCAGAGAGAGCTGCAAAAAGCTGGAGGAAGGTGAGGTGAATGTGCT
180 R Q K I L K G F N E M R V I L D N E E Q R E L Q K L E E G E V N V L
1201 GGATAACCTGGCAGCAGCTACAGACCAGCTGGTCCAGCAGAGGAGGATGCCAGCAGCTCATCTCAGATCTCCAGCGGAGGTTGACGGGATCGTCAGTA
213 D N L A A A T D Q L V Q Q R Q D A S T L I S D L Q R R L T G S S V

BspHI (1325) 1301 GAGATGCTGCAGGATGTGATTGACGTCATGAAAAGGAGTGAAAGCTGGACATTGAAGAAGCCAAAATCTGTTTCCAAGAACTAAAGAGTGTATTCCGAG
247 E M L Q D V I D V M K R S E S W T L K K P K S V S K K L K S V F R

BstBI (1494) **Bsp119I (1494)** **PshAI (1440)** **ScaI (1451)** 1401 TACCAGATCTGAGTGGGATGCTGCAAGTCTTAAAGAGCTGACAGATGTCAGTACTACTGGGTGGACGTGATGCTGAATCCAGGCAGTGCCACTTCGAA
280 V P D L S G M L Q V L K E L T D V Q Y Y W V D V M L N P G S A T S N

EcoRI (1557) **BbsI (1591)** 1501 TGGTGTATTTCTGTGGATCAGAGACAAGTAAAACTGTACGCACCTGCACATTTAAGAATTCAAATCCATGTGATTTTTCTGCTTTTGGTGTCTCCGGC
313 V A I S V D Q R Q V K T V R T C T F K N S N P C D F S A F G V F G

BamHI (1661) 1601 TGCCAATATTTCTCTTCGGGAAATATTACTGGGAAGTAGATGTGCTGGAAAGATTGCTGGATCCTGGCGTACACAGTAAATAAGTAGTCTGAATA
347 C Q Y F S S G K Y Y W E V D V S G K I A W I L G V H S K I S S L N

SapI (1704) 1701 AAAGGAAGAGCTCTGGGTTTGTCTTTGATCCAAGTGTAAATTATTCAAAGTTTACTCCAGATATAGACCTCAATATGGTACTGGGTTATAGGATTACA
380 K R K S S G F A F D P S V N Y S K V Y S R Y R P Q Y G Y W V I G L Q

BspLU11I (1804) 1801 GAATACATGTGAATATAATGCTTTTGGAGACTCCTCCTCTTCTGATCCCAAGTTTTGACTCTCTTTATGGCTGTGCCTCCCTGTCGATTGGGGTTTTCT
413 N T C E Y N A F E D S S S S D P K V L T L F M A V P P C R I G V F
1901 CTAGACTATGAGGCAGGCAATGTCTCATTCTTCAATGTCAAAACCACGGAGCACTCATCTACAAGTTCTCTGGATGTCGTTTTCTCGACCTGCTTATC
447 L D Y E A G I V S F F N V T N H G A L I Y K F S G C R F S R P A Y

NheI (2082) 2001 CGTATTTCAATCCTTGGAACTGCCTAGTCCCATGACTGTGTGCCACCGAGCTCCTGAGTGTCTCATTCTTTACCCACTGCTAGCTGGCCAGACATG
480 P Y F N P W N C L V P M T V C P P S S •

2101 ATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAAATGCAAGTGAAGGAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCA

HpaI (2220) **MfeI (2231)** 2201 TTATAAGCTGCAATAAACAGTTAAACAACAACAAATTGCATTCTTTTTATGTTTCAGGTTACAGGGGAGGTGTGGGAGTTTTTTAAAGCAAGTAAACCT

EcoRI (2316) 2301 CTACAAATGTGGTATGGAATCTAAAATACAGCATAGCAAACTTTAACCTCCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCAT

SapI (2498) 2401 AGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGACGCTCACCTTCTTTCATGGAGTTAAGATATAGTGTATTTCCCAAGTTTTGAACTAGC

SwaI (2569) 2501 TCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTTAGTAAATATTGAGAATAATTTAAATACATCATTGCAATGAAAATAAT

EcoO109I (2630)

2601 GTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATTGG

2701 ACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTTCCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTATCTCAATGAG
141 • N R T Y K L P I L E E I T T K V L K G N M E I L

BstXI (2859)

2801 CACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGC
116 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 V E D S Y P H

StuI (2994)

2901 CTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCT
82 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 V R G I Y A E

3001 CAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGTCTGATGGCCGCCGACATGGTGCTTGTTCCTCATAGAGCATGGTGATCTTCTCAGTGGC
49 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 M T I K E T A

BbsI (3140)

XmnI (3136)

3101 GACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGA
16 V E V L E L D Q Q S I N F T K M

AseI (3202)

3201 TGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCACATAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCG

SpeI (3357)

3301 CCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAAAACAACTCCATTGACGTCAATGGGGTGGAGAC

SnaBI (3485)

3401 TTGGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTG

NdeI (3590)

3501 CCAAGTAGGAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATAC

3601 ACTTGATGTACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTA

PaeI (3776)

SdaI (3768)

BspLU11I (3786)

3701 TTGACGTCAATGGGCGGGGTCGTTGGCGGTGAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCTGCAGGTTAAATTAAGAACATGTGAGCAAAA
3801 GGCCAGCAAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCAGAAAAATCGACGCTCAAGTC

3901 AGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGCGTTTTCCCTGGAAGCTCCCTCGTGCCTCTCCTGTTCCGACCTGCCGTTACCGGATA

4001 CCTGTCCGCTTTCTCCCTTCGGAAGCGTGGCGTTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTGTTCCGCTCCAAGCTGGGCTGT

ApaLI (4100)

4101 GTGCACGAACCCCCGTTTCCAGCCGACCGCTGCGCCTTATCCGTAATATCGTCTTGAAGTCCAAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAG

4201 CCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGG

4301 TATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAGAGGTTGGTAGCTCTTGTATCCGGCAACAAACCACCGCTGGTAGGGTGGTTTTTTGTTTGC

4401 AAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAACGAAAACTCACGTTAAGGGA

EagI (4536)

PaeI (4516)

SwaI (4525)

NotI (4535)

4501 TTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGAATAAAATATCTTTATTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAA

4601 CTAACATACGCTCTCCATCAAAAACAAACGAAACAAACAAACTAGCAAAATAGGCTGTCCCCAGTGCAAGTGCAAGTGCCAGAACATTTCTCTATCGAA