



PvuI (7)
SgfI (6)

1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Bsu36I (291)
EcoNI (287)

201 **Psp1406I (203)** **HindIII (245)** **EcoNI (287)**
GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACCGCGCCCGCCCTACCTGAGGCC
301 GCCATCCACGCGGTTGAGTCGCGTTCGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
NaeI (441)

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGCTTTTGTTCGTTT

NcoI (560)
BstEII (555)
KasI (535) **AgeI (552)** **BamHI (564)** **BamHI (574)**

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCGCTACCTGAGATCACCGGTACCATTGGATCCAAAGGATCCCTTCTGGAGAATACTTCT
1▶ M D P K G S L S W R I L L
Eco72I (687)
BbrPI (687)

601 GTTTCTCTCCTGGCTTTTGGAGTTGAGCTACGGAACAGGTGGAGGTGTGATGGATTGCCAGTGATTCTCCAGAAGCTGGGACAGGACACGTGGCTGCC
13▶ F L S L A F E L S Y G T G G G V M D C P V I L Q K L G Q D T W L P

NcoI (758)

701 CTGACGAATGAACATCAGATAAATAAGAGCGTGAACAAAAGTGTCCGCATCCTCGTACCATGGCGACGTCCCGAGGAAGCAAATCCAACAAGAAAATTG
47▶ L T N E H Q I N K S V N K S V R I L V T M A T S P G S K S N K K I
801 TGTCTTTTGTCTCTCTAAAGGGAGCTATCCAGATCACCTGGAGGATGGCTACCATTTCATCGAAAAACCTGAGCCTGAAGATCCTCGGGAACAGGCC
80▶ V S F D L S K G S Y P D H L E D G Y H F Q S K N L S L K I L G N R R

Psp1406I (937) **HindIII (970)**

901 GGAGAGTGAAGGATGGTACTTGGTGAGCGTGGAGGAGAAGCTTTCTGTTTCAGCAATTCTGCAAGCAGCTGAAGCTTTATGAACAGGTCTCCCTCCAGAG
113▶ E S E G W Y L V S V E E N V S V Q Q F C K Q L K L Y E Q V S P P E

PstI (1041)

1001 ATTAAAGTGCTAAACAAAACCCAGGAGAACGAGAATGGGACCTGCAGCTTGTGTTGGCTGCACAGTGAAGAAAAGGGACCATTGTGACTTACAGCTGGA
147▶ I K V L N K T Q E N E N G T C S L L L A C T V K K G D H V T Y S W

BsrBI (1137)

1101 GTGATGAGGCAGGCACCCACCTGCTGAGCCGAGCAACCGCTCCACCTCCTGCACATCACTCTTAGCAACCAGCATCAAGACAGCATCTACAACCTGCAC
180▶ S D E A G T H L L S R A N R S H L L H I T L S N Q H Q D S I Y N C T

SphI (1252) **NcoI (1285)**

1201 CGAAGCAACCTGTGAGCAGTATCTTAGGACCTTCAACCTATCATCGCAAGCATGCAAGCAGGAATCCTCCTCAGAATCGAGTCCATGGATGCAATAT
213▶ A S N P V S S I S R T F N L S S Q A C K Q E S S S E S S P W M Q Y
1301 ACTCTGTACCACTGGGGTCTTATAATCTTCATCCTGGTTTTACGGCAATAATAATGATGAAAAGACAAGTAAATCAAATCACTGCCAGCCACCAG
247▶ T L V P L G V V I I F I L V F T A I I M K R Q G K S N H C Q P P

BspHI (1464) **BstXI (1499)**

1401 TGGAGAAAAAAGCTCACTATTTATGCCAAAGTACAGAAATCAGGGCCTCAAGAGAAGAAATTCATGATGCCCTAACAGATCAGGACCCCTGCACAAC
280▶ V E E K S L T I Y A Q V Q K S G P Q E K K L H D A L T D Q D P C T T
1501 CATTATGTGGCTGCCACAGAGCTGCCAGAGCTGTCCAGGAACCAACCCACCACAGTTTATGCCAGTGTGACACTGCCAGAGAGCTGACCCATA
313▶ I Y V A A T E P A P E S V Q E P N P T T V Y A S V T L P E S •

MscI (1616)
NheI (1610)

1601 TACCCAGTGAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAATAAATGCTTTATTTGTGAAATT

HpaI (1748) **MfeI (1759)**

1701 TGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAACAATTGCATTCATTTTATGTTTCAGGTTTCAGGGGAGGTGT

EcoRI (1844)

1801 GGGAGTTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCTAAAATACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTACTTGA
1901 ATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTTCATGGAGTTTAAAGATAT

SspI (2083) **SwaI (2097)**

2001 AGTGTATTTTCCAAAGTTTGAAGTCTTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTTAGTAAATATTCAGAAATAATT
2101 TAAATACATCATTGCAATGAAAAATAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTATAATATCCCCAGTTTAGTAGTTGGACTTAGG
2201 GAACAAAGGAACCTTAAATAGAAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTT
141▶ N R T Y K L P I L E E I T T K
SacI (2358) **BstXI (2387)**

2301 TGACCAGCTTGCCATTCTCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGCACATGCCACAGGGGCTGACCACCCTGATGGA
125▶ 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 S
2401 TCTGTCCACCTCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCA
92▶ 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

2501 CAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAGTCTTGGCTCTGATGGCCGCCCGACATGGTGCTTGTTCCT
58 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 E
Eco147I (2522) StuI (2522)
2601 CATAGAGCATGGTATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCTGCTGAGAGATGTTGAAGTCTTCATGATGGCCCTCTATAGTGAGTCGT
25 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
XmnI (2664) BspHI (2672)
2701 ATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCATAAACGAGCTCTGCTTAT
VspI (2730) AseI (2730) SacI (2787)
2801 ATAGACCTCCCACGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAAGTCCCCTTGATTTACTAGTCAAAACAA
SpeI (2885)
2900 ACTCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTA
SnaBI (3013) Eco105I (3013)
3000 ATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCAATGTACTGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGT
NdeI (3118)
3100 CAATAGGGGGCGTACTTGGCATATGATACACTTGTACTGCAAGTGGGCGAGTTTACCCTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTAT
PstI (3297) SdaI (3296)
3200 TGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGCGGTGACGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCC T
PacI (3304) BspLU11I (3314)
3300 G C A G G T T A A T T A A G A A C A T G T G A G C A A A A G G C C A G C A A A A G G C C A G G A A C C G T A A A A A G G C C G C T T G C T G G C G T T T T T C C A T A G G C T C C G C C C C C C T
3398 G A C G A G C A T C A C A A A A T C G A C G C T C A A G T C A G A G G T G G C G A A C C C G A C A G G A C T A T A A G A T A C C A G G C G T T C C C C T G G A A G C T C C C T C G T G C G C T
3498 C T C C T G T T C C G A C C C T G C C G C T T A C C G G A T A C C T G T C C G C T T T C C C T T C G G A A G C G T G G C G T T T C T C A T A G C T A C G C T G T A G G T A T C T C A G T T C
ApaLI (3628)
3598 G G T G T A G G T C G T T C G C T C C A A G C T G G G C T G T G T G C A C G A A C C C C C G T T C A G C C C G A C C G C T G C G C C T T A T C C G G T A A C T A T C G T C T T G A G T C C A A C C C G
3698 G T A A G A C A C G A C T T A T C G C C A C T G G C A G C A G C C A C T G G T A A C A G G A T T A G C A G A G C G A G G T A T G T A G G C G G T G C T A C A G A G T T C T T G A A G T G G T G G C C T A
3798 A C T A C G G C T A C A C T A G A A G A A C A G T A T T T G G T A T C T G C G C T C T G C T G A A G C C A G T T A C C T T C G G A A A A A G A G T T G G T A G C T C T T G A T C C G G C A A A C A A A C
3898 C A C C G C T G G T A G C G G T G T T T T T T G T T G C A A G C A G C A G A T T A C G C G C A G A A A A A A G G A T C T C A A G A A G A T C C T T T G A T C T T T T C A C G G G T C T G A C
EagI (4064) NotI (4063) PacI (4044) SmaI (4053)
3998 G C T C A G T G G A A C G A A A A C T C A C G T T A A G G G A T T T T G G T C A T G G C T A G T T A A T T A A C A T T T A A A T C A G C G C C G C A A T A A A A T A T C T T T A T T T T C A T T A C A
4098 T C T G T G T T G G T T T T T T G T G T G A A T C G T A A C T A A C A T A C G C T C C A T C A A A A C A A A A C G A A A C A A A A C T A G C A A A A T A G G C T G T C C C C A G T G C A
4198 A G T G C A G G T G C C A G A A C A T T T C T A T C G A A