



100

PvuI (7)
SgfI (6)
1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGCAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTCGGCAATTGAACGGGTGCCTA **EcoNI (96)**

101 GAGAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGACTGGCTCCGCCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245)
Psp1406I (203) **PvuII (239)** **EcoNI (287)**
201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACAGCGCCCGCCCTACCTGAGGCC

301 GCCATCCACGCGGTTGAGTCGCGTTCTGCCGCCTCCCGCCTGTGGTGCCTCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMI (441)
NaeI (441)
401 GGGCCTTTGTCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTCTCAACTCTACGTCTTTGTTTCGTTT

NcoI (560)
BstEII (555)
KasI (535) **AgeI (552)**
501 TCTGTTCTGCGCGGTTACAGATCCAAGCTGTGACCGCGGCTACCTGAGATCACCGGTACCATGGCTCAGCACCTATGGATCTTGCCTCTTTCCT 1▶ M A Q H H L W I L L L C L

PvuII (617)
601 GCAAACCTGGCCGGAAGCAGCTGGAAAAGACTCAGAAATCTTACAGTGAATGGGATTCTGGGAGAGTCACTCTTCCCTGTAATATCCAAGAACCA
13▶ Q T W P E A A G K D S E I F T V N G I L G E S V T F P V N I Q E P
701 CGCAAGTAAAAATCATTGCTTGACTTCTAAAACATCTGTTGCTTATGTAACACCAGGAGACTCAGAAACAGCACCCGTAGTTACTGTGCCACAGAA
47▶ R Q V K I I A W T S K T S V A Y V T P G D S E T A P V V T V T H R
801 ATTATTATGAACGGATACATGCCTTAGGTCCGAACCTACAATCTGGTCATTAGCGATCTGAGGATGGAAGACGCAGGAGACTACAAAGCAGACATAAATAC
80▶ N Y Y E R I H A L G P N Y N L V I S D L R M E D A G D Y K A D I N T

Eco47III (926)
AfeI (926)
901 ACAGGCTGATCCCTACACCACCAAGCGCTACAACCTGCAATCTATCGTCGGCTTGGGAAACAAAAATTACACAGAGTTAATGGCATCTGTGAAC
113▶ Q A D P Y T T T K R Y N L Q I Y R R L G K P K I T Q S L M A S V N
1001 AGCACCTGTAATGTCACACTGACATGCTCTGTAGAGAAAAGAAAAGAAATGTGACATACAATTGGAGTCCCTGGGAGAAGAGGGTAATGTCCTTCAA
147▶ S T C N V T L T C S V E K E E K N V T Y N W S P L G E E G N V L Q

BsrGI (1138)
Eco72I (1134)
BbrPI (1134)
1101 TCTCCAGACTCCTGAGGACCAAGAGCTGACTTACAGTGTACAGCCAGCCAGAACCTGTGACGAAACAATCTGACTCCATCTCTGCCCGGCGAGCTCTGTGC
180▶ I F Q T P E D Q E L T Y T C T A Q N P V S N N S D S I S A R Q L C A
1201 AGACATCGCAATGGGCTTCCGTAAGTCTCACCACACCGGGTGTGAGCGTGTGGCTATGTTCTTCTGCTTGTCTCATTCTGTCTTCAAGTGTCTTGTTC
213▶ D I A M G F R T H H T G L L S V L A M F F L L V L I L S S V F L F
1301 CGTTTGTCAAGAGAAGACAAGATGCTGCCTCAAAGAAAACCATATACACATATATCATGGCTTCAAGGAACCCAGCCAGCAGAGTCCAGAATCTATG
247▶ R L F F K R R Q D A A S K K T I Y T Y I M A S R N T Q P A E S R I Y

PstI (1408)
1401 ATGAAATCCTGCAGTCCAAGGTGCTTCCCTCCAAGGAAGGCCAGTGAACACAGTTTATTCGGAAGTGCAGTTTGTGATAAGATGGGAAAAGCCAGCAC
280▶ D E I L Q S K V L P S K E E P V N T V Y S E V Q F A D K M G K A S T

MscI (1579)
EcoRI (1560) **NheI (1573)**
1501 ACAGGACAGTAAACCTCCTGGGACTTCAAGCTATGAAATTGTGATCTAGGCTGCTGGGCTGAATTCTCCCTCTGCTAGCTGGCCAGACATGATAAGATAC
313▶ Q D S K P P G T S S Y E I V I •

1601 ATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAATAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCT

HpaI (1711)
1701 GCAATAACAAGTAAACAACAACAAATTGCATTCATTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATG

EcoRI (1807)
1801 TGGTATGGAATTTAAAATACAGCATAGCAAACTTTAACTCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAG

1901 GGGCTGTTGCCAATGTGCATTAGCTGTTTGAGCCTCACCTTCTTCATGGAGTTAAGATATAGTGATTTTCCAAGGTTTGAAGTCTCTTCATT

SspI (2046) **SwaI (2060)**
2001 CTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTTAGTAAAAATTCAGAAAATATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTAT

EcoO109I (2121)
2101 TAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTGTAGTGGACTTAGGGAACAAAGGAACCTTAAATAGAAATGGACAGCAAGA

2201 AAGCGAGCTTCTAGCTTTAGTTCCTGGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTCCATTCTCAATGAGCACAAGCA
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 V F C

SacI (2321) **BstXI (2350)**
2301 GTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCC
113▶ 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 R V A

StuI (2485)
Eco147I (2485)
2401 ACAATGGTGTCAAAGTCTTCTGCCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTACCCTGCCAATGTAGGCCTCAATGTGGA
79▶ 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 I H V

2501 CAGCAGAGATGATCTCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGCTTGTGTCCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCAC
46 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 V E V
BspHI (2635) VspI (2693)
XmnI (2627) AseI (2693)
2601 CAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGATGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATT
13 L E L D Q Q S I N F T K M
SacI (2750)
2701 GTCAAAACAGCGTGGATGGCGTCTCCAGC T TATCTGACGGTTCACATAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTGTC
SpeI (2848)
2801 GTC AATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAAACAACTCCCATTGACGTCAATGGGGTGGAGACTTGAAAT
SnaBI (2976)
Eco105I (2976)
2900 CCCC GTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAG
NdeI (3081)
3000 GAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGCGGGCCATTACCCTGATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGATG
3100 TACTGCCAAGTGGG CAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTC
PstI (3260)
SdaI (3259) PacI (3267) BspLU11I (3277)
3200 AATGGGCGGGGGTCTGTTGGGCGGT CAGCCAGGCGGGCCATTTACCCTAAGTTATGTAACGCCCTGCAGGTTAA TTAAGAACATGTGAGCAAAGGCCAG
3298 CAAAAGGCCAGGAACCGTAAAAAGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGT
3398 GGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCCTGGAAGCTCCCTCGTGCGCTCTCTGTTCCGACCTGCCGTTACCGGATACCTGTC
ApaLI (3591)
3498 CGCCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCAC
3598 GAACCCCGTT CAGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTG
3698 GTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTG
3798 CGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAG
3898 CAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGGAACGAAAACCTCACGTTAAGGGATTTTGG
EagI (4027)
PacI (4007) SwaI (4016) NotI (4026)
3998 TCATGGCTAGTTAATTAACATTTAAATC AGCGGCCGCAATAAAATATCTTTATTTTTCATTACATCTGTGTGTTGTTTTTTGTGTGAATCGTAACTAACA
4098 TACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA