



PvuI (7)
SgfI (6)
EcoNI (96)

1 GGATCTGCGATCGTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
 101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGACTGGTCCGCCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203)
HindIII (245)
Bsu36I (291)

201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACAGCGCCGCCGCCCTACCTGAGGCC
 301 GCCATCCACGCGGTTGAGTCGCGTTCTGCCGCCTCCCGCCTGTGGTGCCTCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
NgoMI (441)
NaeI (441)

401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCGTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

NcoI (560)
BstEII (555)
XcmI (566)

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGCGCTACCTGAGATCACCGGTACCATGGCCATCGCTCAACTGGCCACGGAGTACGTGTTCTC
1▶ M A I A Q L A T E Y V F S

Eco72I (675)
BbrPI (675)

601 GGATTTCTTGCTGAAGGAGCCACGAGCCCAAGTTCAAGGGGCTGCGACTGGAGCTGGCTGTGGACAAGATGGTCACGTGCATTGCGGTGGGGCTGCC
 13▶ D F L L K E P T E P K F K G L R L E L A V D K M V T C I A V G L P

BglII (731)

701 CTGCTGCTCATCTCGCTGGCCCTTCGCGCAGGAGATCTCGATTGGTACACAGATAAGCTGTTTCTCTCCAAGTCTTTCTCTGGCGTCAGGCTGCCTTTG
 47▶ L L L I S L A F A Q E I S I G T Q I S C F S P S S F S W R Q A A F
 801 TGGATTCATATTGCTGGGCGCTGTTACGACAGAAGAACTCACTGCAGAGCGAGTCTGGAAACCTCCACTGTGGCTGCATAAGTTTTTCCCTACATCCT
 80▶ V D S Y C W A A V Q Q K N S L Q S E S G N L P L W L H K F F P Y I L

PvuII (950)

901 GCTGCTCTTTGCGATCCTCTGTACCTGCCCCGCTGTTCTGGCGTTTCGCAGTCTCATATTGCTCAGACTTGAAGTTTATCATGGAAGAACTT
 113▶ L L F A I L L Y L P P L F W R F A A A P H I C S D L K F I M E E L
 1001 GACAAAGTTTACAACCGTGAATTAAGGCTGCAAAGAGTGCAGCTGACCTTGACATGAGAGATGGAGCCTGCTCAGTTCAGGTGTTACCGAGAACTTAG
 147▶ D K V Y N R A I K A A K S A R D L D M R D G A C S V P G V T E N L

ScaI (1154)

1101 GGCAAAGTTTGTGGGAGGTATCTGAAAGCCACTTCAAGTACCCAATTGTGGAGCAGTACTTGAAGACAAAGAAAAATTCTAATAATTTAATCATCAAGTA
 180▶ G Q S L W E V S E S H F K Y P I V E Q Y L K T K K N S N N L I I K Y
 1201 CATTAGCTGCCGCTGCTGACACTCATCATTATACTGTTAGCGTGTATCTACCTGGGCTATTACTTCAGCCTCTCCTCACTCTCAGACGAGTTTGTGTGC
 213▶ I S C R L L T L I I I L L A C I Y L G Y Y F S L S S L S D E F V C

BamHI (1313)

1301 AGCATCAAATCAGGATCCTGAGAAACGACAGCACCCTGCCGATCAGTTTCAGTCAAACCTATTGCCGTGGGCATCTTCCAGTTGCTCAGTGTCTTA
 247▶ S I K S G I L R N D S T V P D Q F Q C K L I A V G I F Q L L S V I
 1401 ACCTTGTTGTTTATGCTCTGCTGGCTCCCGTGGTTGTCTACACGCTGTTTGTCCATTCGACAGAAGACAGATGTTCTCAAAGTGTACGAAATCCTCCC
 280▶ N L V V Y V L L A P V V V Y T L F V P F R Q K T D V L K V Y E I L P
 1501 CACTTTTGATGTTCTGCATTTCAAATCTGAAGGTTACAACGATTTGAGCCTCTACAATCTCTTCTGGAGGAAAAATATAAGTGAGGTCAAGTCATAACAAG
 313▶ T F D V L H F K S E G Y N D L S L Y N L F L E E N I S E V K S Y K

SspI (1618)

1601 TGTCTTAAGTACTGGAGAATATTAAGAGCAGTGGTCAGGGGATCGACCCAATGCTACTCCTGACAAACCTTGGCATGATCAAGATGGATGTTGTTGATG
 347▶ C L K V L E N I K S S G Q G I D P M L L L T N L G M I K M D V V D
 1701 GCAAACTCCCATGTCTGCAGAGATGAGAGAGGAGCAGGGGAACCAGACGGCAGAGCTCAAGGTATGAACATAGACAGTGAACCTAAAGCAAATAATGG
 380▶ G K T P M S A E M R E E Q G N Q T A E L Q G M N I D S E T K A N N G

NheI (1874)

1801 AGAGAAGAAATGCCGACAGAGACTTCTGGATTCTTCTGCTGATGATTTTTTCTTGAGCTGTAATCTGTGAGCTAGCTGGCCAGACATGATAAGATA
 413▶ E K N A R Q R L L D S S C •

1901 CATTGATGAGTTTGGACAAACCAACTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGC

HpaI (2012)

2001 TGCAATAAACAAGTTAAACAACAACATTGCATTCATTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAT

EcoRI (2108)

2101 GTGGTATGGAATTCATAAATACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCA
 2201 GGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTTAAGATATAGTGTATTTTCCCAAGGTTTGAACACTGCTTTCATT

SspI (2347)
SwaI (2361)

2301 TCTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTTAGTAAATATTTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTA

EcoO109I (2422)

2401 TTAGGCAGAAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTAAATAGAAATGGACAGCAAG
 2501 AAAGCGAGCTTCTAGCTTTAGTTCTGTTGACTTGGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCATCTCAATGAGCACAAGC
 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

BstXI (2651)

2601 AGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGTGCCTGACAGC
 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 (2786)

Eco147I (2786)

2701 CACAATGGTGTCAAAGTCCTTCTGCCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGG
 80 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

2801 ACAGCAGAGATGATCTCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTCTTGTTCCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCA
 46 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 V E V

BspHI (2936) **VspI (2994)**

XmnI (2928) **AseI (2994)**

2901 CCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGCTTTCATGATGGCCCTCCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAAT
 13 L E L D Q Q S I N F T K M

3001 TGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCATAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTGT

SpeI (3149)

3101 CGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAACAAACTCCATTGACGTCAATGGGGTGGAGACTTGAAAA

SnaBI (3277)

Eco105I (3277)

3200 TCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTA

NdeI (3382)

3300 GGAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGAT

3400 GTACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCTATTGGCGTTACTATGGGAACATACGTCAATTATTGACGT

SdaI (3560) **PacI (3568)** **BspLU11I (3578)**

3500 CAATGGGCGGGGTCGTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAAGTTATGTAACGCCTGCAGGTTAA TTAAGAACATGTGAGCAAAAGGCCA
 3598 GCAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGG

3698 TGGCGAAACCCGACAGGACTATAAGATACCAGGCTTTCCCTGGAAGCTCCCTCGTGCCTCTCCTGTTCCGACCCTGCCGTTACCGGATACCTGT

ApaLI (3892)

3798 CCGCCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCA

3898 CGAACCCCGGTTTCCAGCCGACCGCTGCGCCTTATCCGTAATATCGTCTTGTAGTCCAAACCCGTAAGACACGACTTATCGCCACTGGCAGCAGCCACT

3998 GGTAAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCT

4098 GCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTGTGTTGCAAGCA

4198 GCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAAACGAAAACTCACGTTAAGGGATTTTG

EagI (4328)

PacI (4308) **SwaI (4317)** **NotI (4327)**

4298 GTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGCAATAAAAATATCTTTATTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAAC

4398 ATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCGAGTGCAAGTGCAAGTGCCAGAACATTTCTCTATCGAA