



PvuI (7)
SgfI (6) 1 GGATCTGCGATCGCTCCGGTGCCCGTCAGTGGGCAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA MfeI (82) EcoNI (96)

101 GAGAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) HindIII (245) Bsu36I (291)
201 GTGAACGTTCTTTTTCGCAACGGGTTTGGCCGAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACCGCGCCCGCCCTACCTGAGGCC EcoNI (287)

301 GCCATCCACGCGGTTGAGTCGCGTTTCTGCCGCTCCCGCCTGTGGTGCTCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

401 GGGCCTTTGTCCGGCGCTCCTTGGAGCCTACCTAGACTCAGCGGCTCTCCACGCTTGGCTGACCCTGCTTGTCTAACTCTACGCTTTTGTTCGTTT NgoMIV (441)

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCGCTACCTGAGATCACCGGTACCATTGGTTCGGGGCTGCTCCGGGCCTGTGGCCGCTGCA NcoI (560)
1 M G R G L L R G L W P L H
BstEII (555)
KasI (535) **AgeI (552)**
601 TATCGTCTGTGGACGCGCATGCCAGCAGCATCCCGCCGACGTTCCCAAGTCGGTTAACAGTGATGTCATGGCCAGCGACAATGGCGGTGCGGTCAAG HindIII (697)
13 I V L W T R I A S T I P P H V P K S V N S D V M A S D N G G A V K

701 CTTCCACAGCTGTGCAAGTTTTCGATGTGAGACTGTCCACTTGCACAACAGAAAGTCTGCATGAGCAACTGCAGCATCACGGCCATCTGTGAGAAGC
47 L P Q L C K F C D V R L S T C D N Q K S C M S N C S I T A I C E K
BstAPI (713)
801 CGCATGAAGTCTGCGTGGCCGTGTGGAGGAAGAACGACAAGAATTACTCTGGAGACGGTTTCCACGACCCCAAGCTCACCTACCAGGCTTCACTCT
80 P H E V C V A V W R K N D K N I T L E T V C H D P K L T Y H G F T L

901 GGAAGATGCCGCTTCTCCCAAGTGTGCATGAAGGAAAAGAAAAGGGCGGGCAGACTTTCTCATGTGTGCCTGTAACATGGAAGAGTGCAACGATTAC BspHI (926)
113 E D A A S P K C V M K E K K R A G E T F F M C A C N M E E C N D Y

1001 ATCATCTTTTGGGAAGAATACACCACCAGCAGTCCCGACCTGTTGTTGGTCAATTCCAAGTGACGGGCGTCAGCCCTCTGCCTCCGCTGGGGATTGCCA PshAI (1062)
147 I I F S E E Y T T S S P D L L L V I I Q V T G V S L L P P L G I A
1101 TAGCTGTATCATCATCTTCTACTGCTACCGTGTCCACCGCAGCAGAAGCTGAGCCCGTCTGGGAGAGCAGCAAGCCCGGAAGCTGATGGATTTACAG
180 I A V I I I F Y C Y R V H R Q Q K L S P S W E S S K P R K L M D F S

1201 TGACAACTGCGCCATCATCCTGGAGGACGACCGCTCCGACATCAGCTCCACGTGCGCCAACAAACATCAACCACAACACGGAGCTGTTGCCCATCGAGCTG BsrBI (1230) **BbrPI (1248)**
213 D N C A I I L E D D R S D I S S T C A N N I N H N T E L L P I E L

1301 GACACGCTGGTGGGAAGGGCCGCTTCCGCGAGGTCTACAAGGCAAGCTGAAGCAGAACACCTCAGAGCAGTTTGGAGCCGTGGCTGTCAAGATCTTCC BglII (1391)
247 D T L V G K G R F A E V Y K A K L K Q N T S E Q F E T V A V K I F

1401 CCTATGAGGAGTACTCCTCGTGGAAAACAGAGAAGGACATCTTCTCCGATCAACCTGAAGCATGAGAACATCCTGCAGTTCTGACGCGCCGAGGAGCG BsrBI (1495)
280 P Y E E Y S S W K T E K D I F S D I N L K H E N I L Q F L T A E E R

1501 GAAGACAGAGCTGGGCAAGCAGTACTGGCTGATCACGGCGTCCACGCGAAGGGCAACCTGCAGGAGTACCTCACGAGGCATGTCATCAGCTGGGAGGAC BbsI (1500) Scal (1520) SdaI (1557) Bsu36I (1599)
313 K T E L G K Q Y W L I T A F H A K G N L Q E Y L T R H V I S W E D

1601 CTGAGGAAGCTGGGCGAGTCCCTGGCCCCGGGCATCGCTCATCTCCACAGTGACCACACTCCTTGTGGGAGGCCAAGATGCCATTGTTACAGGGACC XmaI (1625) XcmI (1653)
347 L R K L G S S L A R G I A H L H S D H T P C G R P K M P I V H R D
1701 TCAAGAGCTTAACATCCTAGTGAAGAAGACTTGACCTGTTGCTGTGTGACTTCGGGCTGTCTTGGCCCTGGACCCTACTCTGTCTGTGGATGACCT
380 L K S S N I L V K N D L T C C L C D F G L S L R L D P T L S V D D L XcmI (1856)

1801 GGCCAACAGCGGGCAGGTGGAAACGGCAAGATACATGGCCCCGGAAGTTCTAGAATCCAGGATGAATCTGGAAAACGTGGAGTCGTTCAAGCAGACGGAT XbaI (1848) PshAI (1893)
413 A N S G Q V G T A R Y M A P E V L E S R M N L E N V E S F K Q T D

1901 GTCTACTCCATGGCTCTGGTACTCTGGAAATGACGTCCCGCTGCAATGCTGTGGGAGAAGTGAAGGATTACGAGCCCCATTTGGTTCCAAGGTGCGGG Neol (1907)
447 V Y S M A L V L W E M T S R C N A V G E V K D Y E P P F G S K V R
2001 AGCACCCCTGTGTGGAGAGCATGAAAGACAGTGTGCTGAGAGACCGAGGGCGCGGAAATCCAGCTTCTGGCTCAACCACAGGGCATCCAGATCGT
480 E H P C V E S M K D S V L R D R G R P E I P S F W L N H Q G I Q I V

2101 GTGTGAGACTTTGACCGAGTGTGGACCATGACCCCGAAGCCGCTCTCACAGCACAGTGTGTGGCAGAGCGCTTCAAGTGTGGAGCATCCGGAGAGA DraIII (2153) Eco47III (2168) BspEI (2190)
513 C E T L T E C W D H D P E A R L T A Q C V A E R F S E L E H P E R

2201 CTCTCTGGGAGGAGCTGCTCCAGGAGAAGATTCCAGAAGATGGCTCGCTGAACACTACCAAATAGCTTTTTCTGGGAGGCTGGCTAGCTGGCCAGACA NheI (2284)
547 L S G R S C S Q E K I P E D G S L N T T K •

2301 TGATAAGATACATTGATGAGTTTGGACAAACCAACTAGAATGCAGTGAATAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAAC

2401 CATTATAAGCTGCAATAACAAGTTAACAACAACAATTGCATTCATTTATGTTTCAGGTTCCAGGGGAGGTGTGGGAGGTTTTTTAAAGCAAGTAAAC HpaI (2422) MfeI (2433)

2501 **EcoRI (2518)**
 CTCTACAAATGTGGTATGGAATTCATAAATACAGCATAGCAAAACTTTAACCTCCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGC
 2601 ATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTTAAGATATAGTGATTTTCCCAAGGTTTGAAC TA

2701 **SspI (2757)** **SwaI (2771)**
 GCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTTAGTAAAATATTCAGAAAATAATTTAAATACATCATTGCAATGAAAATAA
 2801 ATGTTTTTTATTAGGCAGAAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATT

2901 GGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTTCATCTCAATG
 3001 AGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGCACATGCCACAGGGGCTGACCACCCTGATGGATCTGTCACCTCATCAGAGTAGGGGT
 116 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 R D V E D S Y P H

3101 **StuI (3196)**
 GCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCAGCACAGACAGTACCCTGCCAATGTAGGC
 83 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
 3201 CTCATGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTGATGGCCGCCGACATGGTGTGTTGTCCTCATAGAGCATGGTGATCTTCTCAGTG
 50 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 Y L M T I K E T

3301 **BspHI (3346)** **BbsI (3342)** **XmnI (3338)**
 GCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCCTTCATGATGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCC
 16 A V E V L E L D Q Q S I N F T K M

3401 **AseI (3404)**
 GATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCATAAACGAGCTCTGCTTATATAGACCTCCACCCTACACGCCTAC

3501 **SpeI (3559)**
 CGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTGGAAAGTCCCGTTGATTTACTAGTCAAACAAACTCCATTGACGTC AATGGGGTGG A

3600 **SnaBI (3687)**
 GACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTA CTG CCAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTA

3700 **NdeI (3792)**
 CTGCCAAGTAGGAAAGTCCATAAGGTCATGTA CTG GGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTC AATAGGGGGCGTACTTGGCATATGA

3800 TACACTTGATGTA CTG CCAAGTGGGCGAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCA

3900 **SdaI (3970)** **PacI (3978)** **BspLU11I (3988)**
 TTATTGACGTC AATGGGCGGGGTCGTTGGGCGGT CAGCCAGGCGGGCCATTTACCGTAA GTTATGTAACGCTGCAGGTTAA TTAAGAACATGTGAG

3998 CAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGGCTTTTTCCATAGGCTCCGCCCCCTGACGAGCATC AAAAAATCGACGCTC

4098 AAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCTTTCCCCCTGGAAGCTCCCTCGTGCCTCTCCTGTTCCGACCCTGCCGCTTACC

4198 GGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTTTCATAGCTACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGG

4298 **ApaLI (4302)**
 GCTGTGTGCACGAACCCCCGTT CAGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGC

4398 AGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTA

4498 TTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAACACCCTGGTAGCGGTGGTTTTTTTG

4598 TTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGGAAACGAAAACCTCACGTTA

4698 **PacI (4718)** **SwaI (4727)** **NotI (4737)**
 AGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCGCAATAAAATATCTTTATTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAAT

4798 CGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTA
 4898 TCGAA