



PvuI (7)
SgfI (6) **EcoNI (96)**
1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTCGGCAATTGAACGGGTGCCTA
101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) **HindIII (245)** **Bsu36I (291)**
PvuII (239) **EcoNI (287)**
201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACAGCGCCCGCCGCTACCTGAGGCC
301 GCCATCCACGCGGTTGAGTGCCTGCTGCCGCTCCCGCCTGTGGTGCCTCCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
NgoMI (441)
NaeI (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGTCCTTTGTTTCGTTT

KasI (535) **AgeI (552)** **BspLU11I (560)** **SalI (594)**
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCCTACCTGAGATCACCGTCAACATGTCGAGCCCAAGGCAATTGATCCCAAGTTGTCGAC
601 GACCGACAGGGTGGTAAAGCTGTTCCATTTCCCAAGTACCAGGCTTACAGCAAAAGAAGTGGTGGATAATGATGGAAAACCTCGTGTGGATATCTTA
13> T D R V V K A V P F P P S H R L T A K E V F D N D G K P R V D I L
701 AAGGCGCATCTTATGAAGGAGGGAAGGCTGGAAGAGAGTGTTCATTGAGAATAATAACAGAGGGTGCATCAATTTCTCGACAGGAAAAAATTTGCTGG
47> K A H L M K E G R L E E S V A L R I T E G A S I L R Q E K N L L
801 ATATTGATGCGCCAGTCACTGTTTGTGGGACATTCATGGACAATTTGATTTGATGAAGCTCTTTGAAAGTGGGGATCTCCTGCCAACACTCGCTA
80> D I D A P V T V C G D I H G Q F F D L M K L F E V G G S P A N T R Y
901 CCTCTTCTAGGGGACTATGTTGACAGAGGGTACTTCAGTATTGAATGTGTGCTGATTTGTGGCCTTAAAAATTTCTACCCAAAAACACTGTTTTTA
113> L F L G D Y V D R G Y F S I E C V L Y L W A L K I L Y P K T L F L

BspHI (1011) **MluI (1077)**
1001 CTTCTGGAAATCATGAATGTAGACATCTAACAGAGTATTTACATTTAAACAAGAATGAAAATAAAGTATTCAGAACGCGTATATGATGCCTGTATGG
147> L R G N H E C R H L T E Y F T F K Q E C K I K Y S E R V Y D A C M
1101 ATGCCCTTGACTGCCTTCCCTGGCTGCCTGATGAACCAACAGTTTCTGTGTGTGCATGGTGGTTTGTCTCCAGAGATTAACACTTTAGATGATATCAG
180> D A F D C L P L A A L M N Q Q F L C V H G G L S P E I N T L D D I R

NdeI (1229)
1201 AAAATTAGACCGATTCAAAGAACCACCTGCATATGGACCTATGTGTGATATCCTGTGGTCAGACCCCTGGAAGATTTTGGAAATGAGAAGACTCAGGAA
213> K L D R F K E P P A Y G P M C D I L W S D P L E D F G N E K T Q E

EcoRI (1360)
1301 CATTTCACTCACAACACAGTCAGGGGGTTCATACTTCTACAGTTACCCGGCTGTATGTGAATTTTACAGCACAATAAAGTATCTATACTCCGAG
247> H F T H N T V R G C S Y F Y S Y P A V C E F L Q H N N L L S I L R

BsrGI (1430)
Asp718I (1421)
Acc65I (1421)
1401 CCCACGAAGCCCAAGATGCAGGGTACCGCATATGGACGAAAAGCCAAACAACAGGCTTCCCTTCTAATTACAATTTTTTTCAGCACCAAATTAAGT
280> A H E A Q D A G Y R M Y R K S Q T T G F P S L I T I F S A P N Y L D

Bst1107I (1501)
1501 TGTATACAATAACAAGCTGCAGTATTGAAGTATGAGAACAATGTTATGAATATCAGGCAATTCACCTGTTCTCCTCATCCACTGCTTCCAAATTTCC
313> V Y N N K A A V L K Y E N N V M N I R Q F N C S P H P Y W L P N F
1601 ATGGATGTTTTACTTGGTCCCTTCCATTTGTTGGGAAAAAGTACTGAGATGCTGGTAAATGCTCAACATCTGCTCAGATGATGAAGTGGGTCAG
347> M D V F T W S L P F V G E K V T E M L V N V L N I C S D D E L G S

PvuII (1724) **MscI (1778)**
BalI (1778)
1701 AAGAAGATGGATTTGATGGTGAACAGCTGCAGCCGGAAGAGGTGATAAGGAACAAGATCCGAGCAATAGGCAAAATGGCCAGAGTGTCTCAGTGC
380> E E D G F D G A T A A A R K E V I R N K I R A I G K M A R V F S V L

SphI (1850) **ScaI (1866)** **Eco47III (1897)**
AfeI (1897)
1801 CAGAGAAGAGAGTGAAGTGTGCTGACGCTGAAAGGCTTGACCCCAACTGGCATGCTCCCGAGTACTTTCTGGAGGGAAGCAAAACCTGCAAAGC
413> R E E S E S V L T L K G L T P T G M L P S G V L S G G K Q T L Q S

VspI (1966)
AseI (1966)
1901 GCTATCAAAGATTTTACCACAACATAAGATCACTAGCTTCGAGGAAGCCAAGGGCTTAGACCGAATTAATGAGAGGATGCCGCTCGCAGAGATGCCA
447> A I K G F S P Q H K I T S F E E A K G L D R I N E R M P P R R D A

SspI (2086)
2001 TGCCCTCTGACGCCAACCTTAACCTCATCAACAAGGCTCTCACCTCAGAGACTAACGGCACGGACAGCAATGGCAGTAATAGCAGCAATATTCAGTGACC
480> M P S D A N L N S I N K A L T S E T N G T D S N G S N S S N I Q •

MscI (2112)
BalI (2112)
NheI (2106)
2101 ACTTCCGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAACCAACTAGAATGCAGTGAATAAATGCTTTATTTGTGAAATTTGTG

HpaI (2244)
2201 ATGCTATTGCTTTATTTGTAACATTATAAGCTGCAATAACAAGTTAAACAACAATTCATTCTTTATGTTTCAGGTTGAGGGGAGGTGTGGGA

EcoRI (2340)
2301 GGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTTCTAAATACAGCATAGCAAACTTTAACCTCCAATCAAGCCTCTACTTGAATCC

2401 TTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTCTTTTCATGGAGTTAAGATATAGTG

2501 TATTTTCCAAGTTTGAAGTAGCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTTAGTAAAATATTCAGAAATAATTTAAA

SspI (2579) SwaI (2593)

2601 TACATCATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAAC

EcoO109I (2654)

2701 AAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGAC

141 • N R T Y K L P I L E E I T T K V

2801 CAGCTTGCCATTTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGACATGCCACAGGGGCTGACCACCCTGATGGATCTG

124 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 R

2901 TCCACCTCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAAAGTCCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGA

90 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 C V

StuI (3018)
Eco147I (3018)

3001 CAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGCTTGTGTCTCATA

57 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 Y

BspHI (3168)

3101 GAGCATGGTGATCTTCTCAGTGGCGACCTCCACAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGATGGCCCTCCTATAGTGAGTCGTATTA

24 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 (3160)

3201 TACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACGCTGGATGGCGTCTCCAGCTATCTGACGGTTCACTAAACGAGCTCTGCTTATATA

VspI (3226)
AseI (3226) SacI (3283)

3300 GACCTCCCACGTACACGCTACGCCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAAACAAACT

SpeI (3381)

3399 CCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTAAGTCCAAAACCGCATCATCATGGTAATA

3499 GCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAA

SnaBI (3509)
Eco105I (3509)

3599 TAGGGGGCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCGGTTTACCGTAAATACTCCACCCATTGACGTCAATGAAAGTCCCTATTGG

NdeI (3614)

3699 CGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGCTGTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCTGC

SdaI (3792)

3798 AGGTTAA TTAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGCCGCTTGTGGCGTTTTTCCATAGGCTCCGCCCTGAC

PacI (3800) BspLU11I (3810)

3897 GAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGCGTTTTCCCTGGAAGCTCCCTGTGCGCTCTC

3997 CTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGGAAAGCGTGGCGTTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGT

4097 GTAGGTGCTTCGCTCCAAGCTGGGTGTGTGCACGAACCCCGTTACGCCGACCGCTGCGCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTA

ApaLI (4124)

4197 AGACAGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACT

4297 ACGGTACTACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCAC

4397 CGCTGGTAGCGGTGGTTTTTTTGTGTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCT

4497 CAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCCAATAAAAATATCTTTATTTTATTACATCT

EagI (4560)
PacI (4540) SwaI (4549) NotI (4559)

4597 GTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCCAGTGCAAGT

4697 GCAGGTGCCAGAACATTTCTCTATCGAA