



PvuI (7)
SgfI (6)
MfeI (82) **EcoNI (96)**

1 GGATCTGCGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
 101 GAGAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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

201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACAGCGCCCGCCCTACCTGAGGGCC
 301 GCCATCCACGCGGTTGAGTGCAGTTCGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

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

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCCTGACCCTGCTTGTCTCAACTCTACGTCTTTGTTTCGTTT

BspLU11I (560)

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGGCTACTCTGAGATCACCGTCAACATGTCGAGCCCAAGGCGATTGATCCCAAGTTGTCGAC
SalI (594)

1▶ M S E P K A I D P K L S T

EcoRV (691)
Eco32I (691)

601 GACCGACAGGGTGGTGAAGCCGTTCCATTTCCACCAAGTCACCGGCTGACAGCAAAGGAAGTGTGATAATGATGGAAACCTCGTGTGGATATCTTA
 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

PagI (710)
BspHI (710)
EcoRV (799)
Eco32I (799)

701 AAAGCACATCTCATGAAGGAGGGCAGGCTGGAAGAAAGTGTGACATTGAGAATAATAACAGAGGGTGTTCGATTCTCCGACAGGAAAAAACTTGCTGG
 47▶ K A H L M K E G R L E E S V A L R I I T E G A S I L R Q E K N L L

NcoI (834)

801 ATATCGACGCACAGTCACAGTTTGTGGGGACATCCATGGACAATTCTTTGACTTGATGAAGCTTTGAAGTGGGAGGATCTCTGCCAACACTCGCTA
 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 CCTCTTTAGGGGACTATGTTGACAGAGGGTACTTCAGTATCGAATGTGTGCTGATTTGTGGGCTTGAATAATCTTTACCCAAAACACTGTTTTTA
 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

PmeI (1044)
MluI (1077)

1001 CTTGCGGAAACCATGAATGTAGGCACCTCACAGAGTATTTACGTTTAAACAAGAATGAAAATAAAGTATTGAGAACGCGTTTATGACGCCTGTATGG
 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

XbaI (1185)

1101 ATGCCCTCGACTGCCTTCCCTGGCTGCGCTAATGAACAGCAGTTCTCTGTGTACACGGTGGTTTGTCTCCAGAGATTAACACTCTAGATGACATCAG
 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

Bsp120I (1234)

1201 AAAATTAGACCGATTCAAAGAACCACCTGCTTATGGGCCATGTGTGACATCCTATGGTCAGACCCCTGGAGGACTTTGAAATGAGAAGACTCAGGAA
 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

PvuII (1349)

1301 CATTTCACTCACAACACAGTCAGAGGCTGTTCTGACTTCTACAGTTACCCAGCTGTGTGTGACTTCTGCAGACAATAATTTGTTGCCATACTCCGCG
 247▶ H F T H N T V R G C S Y F Y S Y P A V C D F L Q H N N L L S I L R

Asp718I (1421)
Acc65I (1421)

1401 CCCACGAAGCCAGGATGCAGGGTACCGCATGTACAGGAAAAGCCAAACAACAGGCTTCCCGTCTCTAATTACAATCTTCTCGGCACCAAATTACTTAGA
 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

BsiBI (1545)
BsaBI (1545)

1501 TGTGTACAATAACAAAGCTGCAGTGTGAAGTACGAGAACAATGTGATGAACATCAGGCGATTCAACTGCTCCCCGCATCCGTAAGTCCCAATTTCC
 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 ATGGATGTTTTACCTGGTGCCTGCCATTTGTTGGGGAGAAAGTACTGAGATGCTGGTCAATGTTCTCAACATCTGCTCCGACGATGAAGTGGGGTCCAG
 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

EagI (1724)
MscI (1778)

1701 AAGAAGATGGATTTGACGGAGCCACGGCCGAGCCGGAAGGATCATCAGAAACAAGTCCGAGCAATAGGCAAAATGGCCAGAGTGTTCAGTTCT
 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

EcoO109I (1832)
Eco47III (1897)
AfeI (1897)

1801 CAGAGAAGAGAGTGAAGTGTCTGACTGAAGGGCTGACCCCAACTGGCATGCTCCCCAGCGGAGTGTCTCTGGCGGGAAACAGACTCTGCAAAGC
 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
 1901 GCTACTGTTGAGGCTATTGAGGCTGATGAAGCCATCAAAGGATTTTACCACAACATAAGATCACTAGCTTCGAGGAGCCAAAGGCTTAGACCGAATTA
 447▶ A T V E A I E A D E A I K G F S P Q H K I T S F E A K G L D R I
 2001 ACGAGAGGATGCCACCTGCAGAGACGCCATGCCCTCTGACGCCAACCTTAACTCCATCAACAAGGCTCTCGCCTCAGAGACTAACGGCACGGACAGCAA
 480▶ N E R M P P R R D A M P S D A N L N S I N K A L A S E T N G T D S N

SspI (2116)
NheI (2136)

2101 TGGCAGTAATAGCAGCAATATT CAGTGACCACTTCCGCTAGCTGGCCAGACATGATAAGATCATTGATGAGTTTGGACAAACCACAAGTGAATGCAGT
 513▶ G S N S S N I Q •

HpaI (2274) **MfeI (2285)**

2201 GAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAACAAGTTAACAACAATTGCATTCAATT

2301 TATGTTTCAGGTTCAAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATCTAAAATACAGCATAGCAAACTTT
EcoRI (2370)

2401 AACCTCCAAATCAAGCCTCTACTTGAATCCTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTC

2501 ACCTTCTTTCATGGAGTTAAGATATAGTGATTTTCCCAAGGTTGAACTAGCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCT

2601 TTTTAGTAAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATAT
SspI (2609) SwaI (2623) EcoO109I (2684)

2701 CCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTTGAG
141 • N R T Y K L

2801 GGGGATGAGTTCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGTCACATG
134 P I L E E I T T K V L K G N M E I L V F C D P A Y D S I L E R C M
SacI (2884)

2901 CCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCCTTCTGCCGTTGCTCACAG
100 G C P S V V R I S 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
BstXI (2913)

3001 CAGACCCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTGATGGC
67 S G I A I A E A 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
StuI (3048)
Eco147I (3048)

3101 CGCCCCGACATGGTGCTTGTCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGCTTC
34 A G V H H K N D E Y L M T I K E T A V E V L E L D Q Q S I N F T K
PagI (3198)
BspHI (3198)
XmnI (3190)

3201 ATGATGGCCCTCCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGA
0 M

3301 CGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGGCTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGT
SacI (3313)

3401 CCCGTTGATTTACTAGTCAAAAACAACTCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGT
SpeI (3411)

3500 ACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGGCATAATGCCA
SnaBI (3539)
Eco105I (3539)

3600 GCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACCTTGATGTACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACC
NdeI (3644)

3700 CATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGAAACATACGTATTATTGACGTCAATGGCGGGGGTCTTGGCGGTGAGCCAGGCGGGC

3800 CATTTACCGTAAGTTATGTAACGCTG 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 A A A A G G C C A G A A C C G T A A A A G G C C G T T G C T G G
SdaI (3822) PacI (3830) BspLU11I (3840)

3898 CGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAGATACCAGGCGTT
AseI (3256)

3998 TCCCCCTGGAAGCTCCCTCGTGCCTCTCTGTCCGACCCTGCCGCTTACCGGATACCTGTCCGCTTTCTCCCTTCGGAAGCGTGGCGCTTTCTCAT

4098 AGCTCAGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCAAGCTGGGCTGTGTGCACGAACCCCGTTCCAGCCGACCCTGCGCCTTATCCG
ApaLI (4154)

4198 GTAACATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGC

4298 TACAGAGTTCTTGAAGTGGTGGCCTAACACGGCTACACTAGAAGAACAGTATTTGGTATCTGCCTCTGCTGAAGCCAGTTACCTTCGGA AAAAGATT
EagI (4590)

4398 GGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGTTTTTTTGTGGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATC
PacI (4570) SwaI (4579) NotI (4589)

4498 CTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCCGC

4598 AATAAAATATCTTTATTTTACATCTGTGTGTTGTTTTTTGTGTAATCGTAACATAACGCTCTCCATCAAAAACAAAACGAAAACAAAACAAAC
4698 TAGCAAAATAGGCTGTCCCAAGTGCAGGTGCCAGAACATTTCTATCGAA