



100

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

1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGCAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
 101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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

201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACCGCGCCCGCCGCTACCTGAGGCC
 301 GCCATCCACGCGGTTGAGTGCCTGTTGCGCCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

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

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

NcoI (560)
BstEII (555)

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGCGCTACTCTGAGATCACCGGTCCATGGATAAAAAACATTGGCGAGCAACTCAATAAAGCGTA
1 M D K N I G E Q L N K A Y

SphI (616) **PstI (635)**

601 TGAAGCCTTCCGGCAGGCATGCATGGATAGAGATTCTGCAGTAAAAGAATTACAGCAAAAGACTGAGAAGTATGAGCAGAGAATACGTGAACAACAGGAA
 13 E A F R Q A C M D R D S A V K E L Q Q K T E N Y E Q R I R E Q Q E
PvuII (700)

701 CAGCTGTCACTTCAACAGACTATTATTGACAAGCTAAAATCTCAGTACTTCTTGTGAATTCCTCAAGATAACAATTATGGCTGTGTTCTCTGCTTG
 47 Q L S L Q Q T I I D K L K S Q L L L V N S T Q D N N Y G C V P L L
 801 AAGACAGTGAACAAGAAAGAATAATTTGACTCTTGATCAGCCACAAGATAAAGTATTTCAGGAATAGCAAGAGAAAACTACCAAAGGTAAGAAGACA
 80 E D S E T R K N N L T L D Q P Q D K V I S G I A R E K L P K V R R Q
 901 AGAGGTTTCTTCTAGAAAAGAACTTACGCAAGGAGTCTTGGCAGTCTTTGCTCCATGAAAGGGTAATATAGAGAAGACTTTCTGGGATCTGAAA
 113 E V S S P R K E T S A R S L G S P L L H E R G N I E K T F W D L K

NheI (1023)

SphI (1019)

1001 GAAGAATTTCAAAAATATGCATGCTAGCAAAAAGCACAGAAAGACCCTTAAGCAAATTAATATACCAGACTGCAACTGAAACACAGTGTCTGTGTC
 147 E E F H K I C M L A K A Q K D H L S K L N I P D T A T E T Q C S V

Eco47III (1134)

AfeI (1134) **Bsu36I (1147)** **ApaLI (1175)**

1101 CTATACAGTGACGGATAAAACAGATAAAACAAGAGCGCTGTTAAGCCTCAGGCTAAAGATGATATAAATAGAGGTGCACCATCCATCAGTGTGCAC
 180 P I Q C T D K T D K Q E A L F K P Q A K D D I N R G A P S I T S V T
 1201 ACCAAGAGGACTGTGCAGAGATAGGAAGACACCTCTTTGAATCACTTCTAAATTCATGTCAAGTTTCCACCTATGGACAATGACTCAACTTTCTTA
 213 P R G L C R D E E D T S F E S L S K F N V K F P P M D N D S T F L
 1301 CATAGCACTCCAGAGACCCGGCATCTTAGTCTGCCACGTCTGAGGCAGTGTGCCAAGAGAAATTAATATGGAGTTCAGAGACAACCCAGGGAAT
 247 H S T P E R P G I L S P A T S E A V C Q E K F N M E F R D N P G N
 1401 TTGTTAAAACAGAAGAACTTTATTTGAAATTCAGGGAATTGACCCATAGCTTCAGCTATACAAAACCTTAAAACAACGACAAAACAAAGCCCTCAA
 280 F V K T E E T L F E I Q G I D P I A S A I Q N L K T T D K T K P S N
 1501 TCTCGTAAACACTTGATCAGGACAACCTGGATAGAGCTGCGTGTGGCCACCTGGAGACCATAATGCATTATATGTAATAGCTTCCCCTCTGAGC
 313 L V N T C I R T T L D R A A C L P P G D H N A L Y V N S F P L L D

XmaI (1632)
SmaI (1632)

1601 CCATCTGATGCACTTTTCCCTCACTCGATTCCCGGGAAAAGCAATCCGAGGACCACAGCAGCCATTTGGAAGCCCTTTCATCAAGACAGTGAAGT
 347 P S D A P F P S L D S P G K A I R G P Q Q P I W K P F P N Q D S D

XhoI (1739)

1701 CGGTGGTACTAAGTGGCACAGACTCAGAAGTGCATATACCTCGAGTATGTGAATTCGTCAAGCAGTTTTCCACCATCCATTACATCCAGGGGGGATTT
 380 S V V L S G T D S E L H I P R V C E F C Q A V F P P S I T S R G D F

SpeI (1853)

1801 CCTCGGCATCTTAATTCACACTTCAATGGAGAGACTTAAGACACATTTGAAAAGTCTAGCTCGACATGATAAGATAACATTGATGAGTTTGGACAA
 413 L R H L N S H F N G E T •

1901 ACCACAAC TAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAAC

HpaI (2022) **MfeI (2033)**

2001 CATTATAAGCTGCAATAAACAAGTTAAACAACAACCAATTGCATTCTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGTTTTTTAAAGCAAGTAAAC
 2101 CTCTACAATGTGGTATGGAATTTCTAAAATACAGCATAGCAAACTTTAACCTCAAATCAAGCTCTACTTGAATCCTTTTCTGAGGATGAATAAGGC
 2201 ATAGGCATCAGGGGCTGTGCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGTATTTCCCAAGGTTGAACTA

SspI (2357) **SwaI (2371)**

2301 GCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTTAGTAAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAA

EcoO109I (2432)

2401 ATGTTTTTTATTAGGCAGAAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGAACCTTTAATAGAAATT
 2501 GGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCATCTCAATG
 141 • N R T Y K L P I L E E I T T K V L K G N M E I

SacI (2632)
BstXI (2661)

2601 AGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGACATGCCACAGGGGGTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGT
 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 StuI (2796)
Eco147I (2796)

2701 GCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCAGCACAGACAGTACCCTGCCAATGTAGGC
 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
 2801 CTCAATGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTGATGGCCGCCGACATGGTGCTTGTGTCCATAGAGCATGGTGATCTTCTCAGTG
 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 BspHI (2946)

2901 GCGACCTCCACCAGTCCAGATCCTGCTGAGAGATGTTGAAGTCTTCATGATGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCC
 16 A V E V L E L D Q Q S I N F T K M VspI (3004)
AseI (3004)

3001 GATGATTAATTGTCAAACACGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCACATAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTAC
SacI (3061)

3101 CGCCCATTTGCGTCAATGGGGCGGAGTTGTACGACATTTTGAAAGTCCCGTTGATTAAGTCAAAACAAACTCCCATTGACGTCAATGGGGTGGGA
SpeI (3159)

3200 GACTTGAAATCCCCTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTA
SnaBI (3287)
Eco105I (3287)

3300 CTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGA
NdeI (3392)

3400 TACACTTGATGTACTGCCAAGTGGGCGAGTTTACCGTAAATACTCCACCATTGACGTCAATGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCA

3500 TTATTGACGTCAATGGGGGGGGTCTGTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCTGCAGGTTAA TTAAGAACATGTGAG
PstI (3571) PciI (3588)
SdaI (3570) PacI (3578) BspLU11I (3588)

3598 CAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAATAATCGACGCTC
 3698 AAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGCGTTTTCCCTGGAAGCTCCCTCGTGCCTCTCCTGTTCCGACCCTGCCGTTACC
 3798 GGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGTTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGG

3898 GCTGTGTGCACGAACCCCGTTGACCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGC
ApaLI (3902)

3998 AGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGCCTAACTACGGCTACACTAGAAGAACAGTA
 4098 TTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAACCCAGCTGGTAGCGGTGGTTTTTTTG
 4198 TTTGCAAGCAGCAGATTACGCGCAGAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGGAAACGAAAACCTCACGTTA

4298 AGGGATTTTGGTCAATGGCTAGTTAATTAACATTTAAATC AGCGGCCGAATAAAATATCTTTATTTTATTACATCTGTGTGGTTTTTTGTGTGAAT
EagI (4338)
PacI (4318) SwaI (4327) NotI (4337)

4398 CGTAACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAAACTAGCAAAATAGGCTGTCCCCAGTGCAAGTGCAAGTGCCAGAACATTTCTCTA
 4498 TCGAA