



PvuI (7)
SgfI (6)
 1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGCAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTCGGCAATTGAACGGGTGCCTA
 101 GAGAAGGTGGCGGGGTAAACTGGAAAGTGATGTCGTGACTGGCTCCGCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) **PvuII (239)** **Bsu36I (291)**
 201 GTGAACGTTCTTTTTCGCAACGGGTTTCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTCACGCGCCGCCGCCCTACCTGAGGGCC
 301 GCCATCCACGCGGTTGAGTCGCGTTTCCGCCCTCCCGCCTGTGGTGCCTCCTGAAGTGCCTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
 401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

AgeI (552)
 501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTAGGAGGGCCATCATGACCAAAGACAAGAACCTATTGTAAAA
 601 AGCTTCCATTTTGTTCCTTATGATCATAATAGTTGGAACCAAGATCCAGTTCTCCGACGGAATGAATTTGCAGTAGACAAGTCAAAAAGAGGTCTTA
 11▶ S F H F V C L M I I I V G T R I Q F S D G N E F A V D K S K R G L
 701 TTCATGTTCCAAAAGACCTACCGCTGAAAACCAAGTCTTAGATATGTCTCAGAACTACATCGCTGAGCTTCAGGTCTCTGACATGAGCTTTCTATCAGA
 44▶ I H V P K D L P L K T K V L D M S Q N Y I A E L Q V S D M S F L S E
 801 GTTGACAGTTTGGACTTTCCATAACAGAATCCAGCTACTTGATTTAAGTGTTCGAAAGTCAACCAGGATTTAGAATATTTGGATTTATCTCATAAT
 77▶ L T V L R L R L S H N R I Q L L D L S V F K F N Q D L E Y L D L S H N

EcoRV (911) **BglIII (947)** **EcoO109I (970)**
 901 CAGTTGCAAAAAGATATCCTGCCATCCTATTGTGAGTTTCAGGCATTTAGATCTCTCATTCAATGATTTCAAGGCCTGCCCATCTGTAAGGAATTTGGCA
 111▶ Q L Q K I S C H P I V S F R H L D L S F N D F K A L P I C K E F G
 1001 ACTTATCACAAGTGAATTTCTGGGATTGAGTGTATGAAGCTGCAAAAATTAGATTTGCTGCCAATTGCTCACTTGCATCTAAGTTATATCCTTCTGGA
 144▶ N L S Q L N F L G L S A M K L Q K L D L L P I A H L H L S Y I L L D

SpeI (1185)
 1101 TTTAAGAAATTATTATATAAAAAGAAAATGAGACAGAAAGTCTACAAATTCGAATGCAAAAACCCCTTACCTTGTTTTTCCACCAACTAGTTTATTTCGCT
 177▶ L R N Y Y I K E N E T E S L Q I L N A K T L H L V F H P T S L F A

PshAI (1266)
 1201 ATCCAAGTGAACATATCAGTTAATACTTTAGGGTGCTTACAACCTGACTAATATTAATTTGAATGATGACAACCTGCAAGTTTTTCAATAATTTTATCAG
 211▶ I Q V N I S V N T L G C L Q L T N I K L N D D N C Q V F I K F L S
 1301 AACTCACCAGAGGTTCAACCTTACTGAATTTTACCCTCAACCACATAGAAACGACTTGGAATGCCTGGTCAGAGTCTTTCAATTTCTTTGGCCAAACC
 244▶ E L T R G S T L L N F T L N H I E T T W K C L V R V F Q F L W P K P
 1401 TGTGGAATATCTCAATATTTACAATTTAACAATAATTGAAAGCATTGCGTGAAGAAGATTTTACTTATTCTAAAACGACATTTGAAAGCATTGACAATAGAA
 277▶ V E Y L N I Y N L T I I E S I R E E D F T Y S K T T L K A L T I E

BsrGI (1540) **HpaI (1574)**
 1501 CATATCACGAACCAAGTTTTTCTGTTTTACAGACAGCTTTGTACACCGTGTTCCTGAGATGAACATTATGATGTTAACCATTTTTCAGATACACCTTTTA
 311▶ H I T N Q V F L F S Q T A L Y T V F S E M N I M M L T I S D T P F

Psp1406I (1656)
 1601 TACACATGCTGTGCTCATGCACCAAGCACATTCAGTTTTTGAACCTTACCAGAAGCTTTTACAGATAGTATTTTTGAAAAATGTTCCACGTTAGT
 344▶ I H M L C P H A P S T F K F L N F T Q N V F T D S I F E K C S T L V
 1701 TAAATTGGAGACCTTATCTTACAAAAGAAATGGATTAAGACCTTTTCAAAGTAGGCTCATGACGAAGGATATGCCTTCTTTGAAAATACTGGATGTT
 377▶ K L E T L I L Q K N G L K D L F K V G L M T K D M P S L E I L D V

EcoRI (1805) **BbsI (1874)**
 1801 AGCTGGAATCTTTTGAATCTGGTAGACATAAAGAAAAGTGCACCTTGGGTTGAGAGTATAGTGGTGTAAATTTGCTTCAAATATGCTTACTGACTCTG
 411▶ S W N S L E S G R H K E N C T W V E S I V V L N L S S N M L T D S
 1901 TTTTCAGATGTTTACCTCCCAGGATCAAGGTACTTGATCTTACAGCAATAAAAATAAAGAGCGTTTCTAAACAAGTCGTAACCTGGAAGCTTTGCAAGA
 444▶ V F R C L P P R I K V L D L H S N K I K S V P K Q V V K L E A L Q E
 2001 ACTCAATGTTGCTTTCAATTTTAACTGACCTTCTGGATGGGCAGCTTTAGCAGCCTTTCTGTATTGATCATTGATCACAATTCAGTTTCCCACCA
 477▶ L N V A F N S L T D L P G C G S F S S L S V L I I D H N S V S H P
 2101 TCGGCTGATTTCTCCAGAGCTGCCAGAAGATGAGGTCAATAAAAAGCAGGGGACAATCCATTCCAATGTACCTGTGAGCTAAGAGAATTTGTCAAAAATA
 511▶ S A D F F Q S C Q K M R S I K A G D N P F Q C T C E L R E F V K N

BspLU11I (2296)
 2201 TAGACCAAGTATCAAGTGAAGTGTAGAGGGCTGGCCTGATTCTTATAAGTGTGACTACCCAGAAAGTTATAGAGGAAGCCCACTAAAGGACTTTTACAT
 544▶ I D Q V S S E V L E G W P D S Y K C D Y P E S Y R G S P L K D F H M

XcmI (2350)
 2301 GTCTGAATTATCTGCAACATAACTCTGCTGATCGTCACCATCGGTGCCACCATGCTGGTGTGGCTGTGACTGTGACCTCCCTCTGCATCTACTGGAT
 577▶ S E L S C N I T L L I V T I G A T M L V L A V T V T S L C I Y L D

BamHI (2490)
 2401 CTGCCCTGGTATCTCAGGATGGTGTGCCAGTGGACCCAGACTCGGCGCAGGGCCAGGAACATACCCTTAGAAGAACTCAAAGAAACCTCGGATCCTATC
 611▶ L P W Y L R M V C Q W T Q T R R R A R N I P L E E L Q R N L G S Y

MscI (2593)

2501 CCTATGATGTGCCAGACTATGCTGGCTATCCATATGATGTTCCCTGATTATGCTGGATACCCCTATGATGTGCCAGACTATGCC**NheI (2587)**TAAAGCTAGCTGGCCAG
644▶ P Y D V P D Y A G Y P Y D V P D Y A G Y P Y D V P D Y A •

2601 ACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGT

HpaI (2725)

2701 AACCAATTATAAGCTGCAATAAACCAAGTTAACAAACAACAAATTGCATTCATTTTATGTTTCAGGTTCCAGGGGAGGTGTGGGAGGTTTTTTAAAGCAAGTAA

EcoRI (2821)

2801 AACCTCTACAAATGTGGTATGGAATTCAAAAACAGCATAGCAAACCTTTAACCTCCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAA
2901 GGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGACGCTCACCTTCTTCATGGAGTTAAGATATAGTGATTTTTCCCAAGGTTTGAA

SapI (3003) SwaI (3074)

3001 CTAGCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTTAGTAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAA

EcoO109I (3135)

3101 TAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAAACAAAGGAACCTTTAATAGAA

3201 ATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCATCTCA
141◀ • N R T Y K L P I L E E I T T K V L K G N M E

SacI (3335)

3301 ATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGG
117◀ 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 D V E D S Y P

StuI (3499)

3401 GGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTGACCTGCCAATGTA
84◀ 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 T V R G I Y

3501 GGCCTCAATGTGGACAGCAGAGATGATCTCCAGTCTTGGTCTGATGGCCGCCGACATGGTGTGTTGTCTCATAGAGCATGGTGATCTTCTCA
51◀ 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 L M T I K E

BbsI (3645)

3601 GTGGGCACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGATGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTAT
17◀ T A V E V L E L D Q Q S I N F T K M

AseI (3707) SacI (3764)

3701 GCCGATGATTAATTGTCAAACACGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCC

SpeI (3862)

3801 TACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAAAACAACTCCATTGACGTCAATGGGGTG

SnaBI (3990)

3901 GAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCAGGCCATTGATGTAAGTCCAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATG

NdeI (4095)

4001 TACTGCCAAGTAGAAAGTCCATAAGGTCATGTAAGTGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGCCATAT
4101 GATACACTTGATGTAAGTGGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGT

PacI (4281)

PstI (4274) BspLU11I (4291)

SdaI (4273)

4201 CATTATTGACGTCAATGGGCGGGGTGCTTTGGGCGTCCAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCTGCAGGTTAATTAAGAACATGTGAG
4301 CAAAAGGCCAGAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTC
4401 AAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGCGTTTCCCTGGAAGCTCCCTCGTGGCTCTCTGTTCCGACCTGCCGCTTACC
4501 GGATACCTGTCCGCTTTCTCCCTCGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGATGTTTCTCAGTTCCGGTGTAGGTCGTTCCGCTCCAAGCTGG

ApaLI (4605)

4601 GCTGTGTGCACGAACCCCGTTCAGCCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAAGTCCAAACCGGTAAGACACGACTTATCGCCACTGGC
4701 AGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTA
4801 TTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTGT

4901 TTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAACGAAAACTCACGTTA

EagI (5041)

PacI (5021) SwaI (5030) **NotI (5040)**

5001 AGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCCAATAAAATATCTTTATTTTCATTACATCTGTGTGGTTTTTTGTGGAAT

5101 CGTAACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTA

5201 TCGAA