



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

Psp1406I (203) **HindIII (245)** **Bsu36I (291)**
PvuII (239) **EcoNI (287)**
 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACACGGCCCGCCCTACCTGAGGCC
 301 GCCATCCACGCGGTTGAGTGCAGTCTGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441) **NaeI (441)**
 401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGTCTTTGTTTCGTTT

KasI (535) **AgeI (552)** **BstEII (555)** **NcoI (560)** **XmaI (581)**
SrfI (580) **NgoMIV (576)** **NaeI (576)**
 501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGCGCTACCTGAGATCACCGGTCCACCATGGCCGCCCGGAGCCGGCCGCGCCGCCCC
1▶ M A A P E P A R A A P P P

Tth111I (631)
 601 GCCCCGCCCCACCGCCCTCTCGGGCCGACCGCTCGTCAAAGCTGTTCTTTTTCCCCAACTCATCGGCTGACATCTGAAGAAGTGTGGATG
 13▶ P P P P P P P L G A D R V V K A V P F P P T H R L T S E E V F D M
 701 GATGGGATACCCAGGTTGATGTTCTGAAGAACCATTGGTAAAGAAGGGCGGGTGGATGAAGAAATTGCAC TAAGAATTATCAATGAGGGTCTGCCA
 47▶ D G I P R V D V L K N H L V K E G R V D E E I A L R I I N E G A A

MscI (864)
 801 TACTTCGGCGGGAGAAAACCATGATAGAAGTAGAAGCTCCAATTACAGTGTGTGGTGACATCCATGGCCAATTTTTGATCTGATGAACTTTTTGAAGT
 80▶ I L R R E K T M I E V E A P I T V C G D I H G Q F F D L M K L F E V
 901 AGGAGGATCACCTGCTAATACACGATACCTTTTTCTTGGTGATTATGTGACAGAGGTTATTTTAGTATAGAGTGTGTCTTATTTATGGGCTTTGAAG
 113▶ G G S P A N T R Y L F L G D Y V D R G Y F S I E C V L Y L W V L K
 1001 ATTCTATACCAAGCACATTATCTTCTGAGAGGCAACCATGAATGCAGACACCTTACTGAATTTTTACCTTTAAGCAGGAATGAAAAATTAATAT
 147▶ I L Y P S T L F L L R G N H E C R H L T E Y F T F K Q E C K I K Y

HindIII (1115)
 1101 CAGAAAGAGTCTATGAAGCTTGTATGGAGGCTTTTGACAGCTTGCCCTGCTGCACTTCTAAACCAACAATTTCTTTGTTCATGGTGACTTTCACC
 180▶ S E R V Y E A C M E A F D S L P L A A L L N Q Q F L C V H G G L S P
 1201 AGAAATACACACACTGGATGATATTAGGAGATTAGATAGATTTAAAGAGCCACTGCATTTGGACCAATGTGTGACTGTGATCGTCTGATCCTTCTGAA
 213▶ E I H T L D D I R R L D R F K E P P A F G P M C D L L W S D P S E
 1301 GACTTTGGAAATGAAAAATCACAAGAACATTTAGTCATAATACAGTTCGAGGATGTTCTTATTTTTATAACTATCCAGCAGTGTGTGAATTTTTGCAA
 247▶ D F G N E K S Q E H F S H N T V R G C S Y F Y N Y P A V C E F L Q

ClaI (1413) **BspHI (1428)** **BsrGI (1457)** **AseI (1491)**
 1401 ACAATAATTTGTTATCGATTATTAGAGCTCATGAAGCTCAAGATGCAGGCTATAGAATGTACAGAAAAAGTCAAACACTACAGGTTTTCCTTCATTAATAAC
 280▶ N N N L L S I I R 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
 1501 AATTTTTTCGGCACCTAATTAAGTCTAGATGTCTACAATAATAAAGCTGCTGACTAAAGATGAAAATAATGTGATGAACATTCGACAGTTAATGTCTCT
 313▶ I F S A P N Y L D V Y N N K A A V L K Y E N N V M N I R Q F N C S

XcmI (1600)
 1601 CCACATCCTTATTGGTTGCCAATTTTATGGATGCTTTACATGGTCTTTACCATTTGTTGGAGAAAAAGTGACAGAAATGTTGGTAAATGTTCTGAGTA
 347▶ P H P Y W L P N F M D V F T W S L P F V G E K V T E M L V N V L S

PvuII (1751)
 1701 TTTGTTCTGATGATGAAC TAATGACAGAAGGTGAAGACCAGTTTGTG GTTCAGCTGCAGCCCGAAAGAAATCATAAGAAACAAGATCCGAGCAATTGG
 380▶ I C S D D E L M T E G E D Q F D G S A A R K E I I R N K I R A I G

EcoO109I (1859)
 1801 CAAGATGGCAAGAGTCTTCTCTGTTCTCAGGGAGGAGAGTGAAGCGTGTGACACTCAAGGGCCTGACTCCACAGGGATGTTGCCTAGTGGAGTGTG
 413▶ K M A R V F S V L R E E S E S V L T L K G L T P T G M L P S G V L
 1901 GCTGGAGGACGGCAGACCTTGCAAAGTGCCACAGTGTGAGGCTATTGAGGCTGAAAAAGCAATACGAGGATTCTCTCCACCACATAGAATCTGCAGTTTTG
 447▶ A G G R Q T L Q S A T V E A I E A E K A I R G F S P P H R I C S F
 2001 AAGAGGCAAAGGGTTTGGATAGGATCAATGAGAGAATGCCACCCCGAAAGATGCTGTGCAGCAAGATGGTTTCAATTCCTGAACACCGCACATACCAC
 480▶ E E A K G L D R I N E R M P P R K D A V Q Q D G F N S L N T A H T T

MscI (2153) **NheI (2147)**
 2101 TGAGAACCACGGGACTGGCAACCATAGTGCCAGTGACCAGCGGCTTGTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAAC
 513▶ E N H G T G N H S A Q •

HpaI (2285)
 2201 TAGAATGCAGTGAATAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAAT

EcoRI (2381)
 2301 TGCATTCATTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGTTTTTTAAAGCAAGTAAACCTCTACAATGTGGTATGGAATTCTAAAATACAGCAT
 2401 AGCAAACTTTAACCTCAAATCAAGCCTTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTGCCAATGTGCATTAGCTG
 2501 TTTGAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGTATTTTCCAAGTTTGAAGTACTGCTTTCATTTCTTTATGTTTTAATGCAGTACCTC

2601 CCACATTCCTTTTTAGTAAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCC

2701 CTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTCTG
141 • N R

2801 GTGTA¹³⁷CTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCT
137 T Y K L 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

2901 CTCTGCACATGCCACAGGGGCTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCC
104 R C M 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

StuI (3059)

3001 GTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTG
71 N S V A 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

3101 GTCCTGATGGCCGCCCGACATGGTGTGTTGTCCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCTGCTGAGAGATGT
37 T R I A 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

BspHI (3209)

XmnI (3201) **AseI (3267)**

3201 TGAAGTCTTCATGATGGCCCTCTATAGTGAGTCGTATTACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCC
4 F T K M

3301 AGCTTATCTGACGGTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACA

SpeI (3422)

3401 TTTTGAAAGTCCCGTTGATTTACTAGTCAAAAACAACTCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCAGC

SnaBI (3550)

3500 CCCATTGATGTA³⁵⁰⁰CTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTA³⁵⁰⁰CTGCCAAGTAGGAAAGTCCCATAAAGTCAATGTA³⁵⁰⁰CTGG

NdeI (3655)

3600 GCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTA³⁶⁰⁰CTGCCAAGTGGGCA³⁶⁰⁰GTTTACCGTA

3700 AATACTCCACCCATTGACGTCAATGAAAGTCCCTATTGGCGTACTATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTCA

SdaI (3833) **PaeI (3841)** **BspLU11I (3851)**

3800 GCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCTGCGAGTTAA TTAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGGC
3898 CGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCAAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGA
3998 TACCAGGCGTTTTCCCTGGAAGCTCCCTCGTGCCTCTCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCCTTTCTCCCTTCGGAAGCGTGG

ApaLI (4165)

4098 CGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTCCAGCCGACCGCTG
4198 CGCCTTATCCGGTAACTATCGTCTTGTGTTCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTAT
4298 GTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGCTACACTAGAAGAAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCG
4398 GAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCCGAGAAAAAAGGATC

PaeI (4581) **SwaI (4590)**

4498 TCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAA

EagI (4601)
NotI (4600)

4598 TCAGCGGCCGCAATAAAATATCTTTATTTTATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAAACAAACGAA
4698 ACAAACAAACTAGCAAATAGGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA