



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

1 GGATCTGCGATCGCTCCGGTGCCCGTCACTGGGCGAGAGCGACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTCGGCAATTGAACGGGTGCCTA
 101 GAGAAGGTGGCGGGGTAACCTGGGAAAGTGTGCTGTACTGGCTCCGCCCTTTTCCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245) **Bsu36I (291)**

Psp1406I (203) **PvuII (239)** **EcoNI (287)**

201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACCGCGCCCGCCCTACCTGAGGGC
 301 GCCATCCACGCCGGTTGAGTCGCGTTCTGCCGCTCCCGCTGTGGTGCCTCCTGAACTGCGTCCGCGCTAGGTAAGTTAAAGTCAAGTCCAGTCCGAGCC

NgoMI (441)
NaeI (441)

401 GGGCCTTTGTCGGCGCTCCCTTGAGGCTACCTAGACTCAGCCGGCTCCACGCTTTGCTGACCTGCTTGTCAACTCTACGCTTTTGTTCGTT

SphI (560) **BpuAI (574)**
AgeI (552) **BbsI (574)**

501 TCTGTTCTGCGCGTTACAGATCCAAGCTGTGACCGCGCTACCTGAGATCACCGTTCAGCATGCCGTTTCTGAAAGACAAGACCTATAAGTATATCTG
 601 CCGCAATTTAGCAATTTTTGCAATGTGGATGTTGTAGAGATTTCGCTTACCTGCCTCAGCAAGAGACAGGATCGATCGCGGGCCACCTGC
 13▶ R N F S N F C N V D V V E I L P Y L P C L T A R D Q D R L R A T C

ScaI (770)

701 ACACTCTCAGGGAACCGGACACCCTCTGGCATCTCTTCAATACCTTCAGCGCGGCCCGCTGGGTGGAGTACTTCACTTGGGCACTGAGGGGCTGTG
 47▶ T L S G N R D T L W H L F N T L Q R R P G W V E Y F I A A L R G C

RsrII (860)

801 AGCTAGTTGATCTCGCGGACGAAGTGGCTCTGTCTACGAGAGCTACCAGCCTCGGACCTCGGACCGTCCCCAGACCCACTGGAGCCACCGTCACTTCC
 80▶ E L V D L A D E V A S V Y E S Y Q P R T S D R P P D P L E P P S L P

Bsp120I (913) **PvuII (954)**

901 TGCTGAGAGGCCAGGGCCCCCACACCTGCTCGGCCACAGCATCCCTACAACAGCTGCAGAGAGAAGGAGCCAAGTTACCCCATGCCTGTCCAGGAG
 113▶ A E R P G P P T P A A A H S I P Y N S C R E K E P S Y P M P V Q E

EcoRI (1026)

1001 ACCCAGGCGCCAGAGTCCCCAGGAGAGAATTGAGGCAAGCCCTGCGAGCGCTCAGCCCCAGAGCCATCCCAAGGAATCCAGATGGTGGCCCCCTGGAGT
 147▶ T Q A P E S P G E N S E Q A L Q T L S P R A I P R N P D G G P L E
 1101 CCTCCTCTGACTGGCAGCCCTCAGCCCTCAGCTTCCAGCGGGCATCAGGAGAAGGACACAGAAGTGGCAGTACCCACAGCAGGTGCGACTCCAG
 180▶ S S S D L A A L S P L T S S G H Q E K D T E L G S T H T A G A T S S
 1201 CCTCACACCATCCCGTGGGCTGTGTCTCATCTGTCTCTTCCAGCCCTTGCCCGTTCACCCCCAGGGCAAGCCGCTTGCCTGGACCCACAGGGTCA
 213▶ L T P S R G P V S P S V S F Q P L A R S T P R A S R L P G P T G S
 1301 GTTGTATCTACTGGCAGCTCTTCTCTCTCATCCCTGGCTTGGCTTGCAGGGGTCGAGAGGGTAAACAGGGTGCAGAGAGTACCAGGAGTACCAGGCGAGC
 247▶ V V S T G T S F S S S P G L A S A G A A E G K Q G A E S D Q A E
 1401 CTATCATCTGCTCAGTGGGCGAGAGGACCTGCCAATCTCTGCCCTCCAAAGTGCCTACCACCTTGATGCCTGTGAACACAGTGGCCCTGAAAGTGC
 280▶ P I I C S S G A E A P A N S L P S K V P T T L M P V N T V A L K V P
 1501 TGCCAAACCAGCATCTGTGACGACAGTGCCTCCAAAGTGCCTAGCTCAAAGCCCTGGTGCAGTGCCTTCAATGCGCTCACCATCCAGCACCA
 313▶ A N P A S V S T V P S S K P L T S S K P P G A V P S N A L T N A P P
 1601 TCCAAATGGCCATCAACTCAACCCGTGCTGGCATGGTGCATCCAAAGTGCCTACTAGCATGGTGTCCACCAAGGTGTCTGCCAGCACAGTCCCCACTG
 347▶ S K L P I N S T R A G M V P S K V P T S M V L T K V S A S T V P T

NgoMI (1744)
NaeI (1744)
SgrAI (1743)

1701 ACGGAGCAGCAGAAATGAGGAGACCCAGCAGCTCAAACACCCGCCGCCACTGGAGGCAGCTCAGCCTGGCTAGACAGCAGCTTTGAGAATAGGGG
 380▶ D G S S R N E E T P A A P T P A G A T G G S S A W L D S S F E N R G

XcmI (1889)

1801 CCTTGGGTGGAGCTGAGTAAAGCTGGCGTGTGGCATCCAGGTAGACAGCCCGTCTCGGGCTGCTTCGAGGATCTTGCATCAGTGCAGCACCTCC
 413▶ L G S E L S K P G V L A S Q V D S P F S G C F E D L A I S A S T S

NcoI (1917) **BbrPI (1966)**

Bsp120I (1909) **BamHI (1961)**

1901 TTGGCATGGGCGCCCTGCCATGGCCAGGAGAATGAGTATAAGTCCGAGGGCACCTTTGGGATCCACGTGGCTGAGAACCCAGCATCCAGCTCCTGG
 447▶ L G M G P C H G P E E N E Y K S E G T F G I H V A E N P S I Q L L
 2001 AGGGCAACCTGGCCACCTGCGGACCCGATGGCGGCCAGGCCACAAGCCGACCGGAAGTCCAGGAGAGGGAGGTGCCATGCCACAGGCCCTCACC
 480▶ E G N P G P P A D P D G G P R P Q A D R K F Q E R E V P C H R P S P

BamHI (2182)

2101 TGGGCTCTGTGGTCCAGTGGCTGTGACAGGGGTGCTGGTAGTACACTCCTGGTGGTGTGTACCAGCGGCTGTGCACGGATCCCTATCCCTATGAT
 513▶ G A L W L Q V A V T G V L V V T L L V V L Y R R R L H G S Y P Y D

MscI (2285)

NdeI (2222) **NheI (2279)**

2201 GTGCCAGACTATGCTGGCTATCCATATGATGTTCTGATTATGCTGGATACCTTATGATGTGCCAGACTATGCCTAAAGCTAGCTGGCCAGACATGATA
 547▶ 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 •

2301 AGATACATTGATGAGTTGGACAACCAACTAGAATGCAGTGAATAAATGCTTTATTTGTAAATTTGTGATGCTATTGCTTTATTTGTAACCATTA

HpaI (2417) **MfeI (2428)**

2401 TAAGTGAATAAAACAAGTTAAACAACAACCAATTGCATTATTTATGTTTCAGGTTACAGGGGAGGTGTGGAGGTTTTTAAAGCAAGTAAACCTCTA

EcoRI (2513)

2501 CAAATGGTATGGAATTTCAAATACAGCATAGCAAAAACCTTAACTCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGG
 2601 CATCAGGGGCTGTTGCAATGTGCATTAGCTGTTTGACGCTCACCTTCTTTCATGGAGTTAAGATATAGTGTATTTTCCAAGGTTTGAACACTGCTC

SspI (2752) **SwaI (2766)**

2701 TCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTGTAGAAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAATAAATGTT

2801 TTTTATTAGGCAGAAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGAACCTTTAATAGAAATTGGACA

2901 GCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCAATGAGCAC
 141 • N R T Y K L P I L E E I T T K V L K G N M E I L V
 SacI (3027)
 Ecl136II (3027) **BstXI (3056)**

3001 AAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGTCACATGCCACAGGGGCTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTG
 115 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 R **StuI (3191)**

3101 ACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGCCCAATGGCAATGGTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAA
 81 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 E I

3201 TGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTGATGGCCGCCGACATGGTGTCTTGTCTCATAGAGCATGGTGTCTTCTCAGTGGCGAC
 48 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 A V
BspHI (3341)
 BpuAI (3337)
 BbsI (3337) **XmnI (3333)** **AseI (3399)**

3301 CTCACCAGTCCAGATCCTGCTGAGAGATGTTGAAGTCTTCATGATGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGA
 15 E V L E L D Q Q S I N F T K M

3401 TTAATTGTCAAACACGCGTGGATGGCGTCTCCAGCTTATCTGACGGTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCTACCGCC
 SacI (3456)
 Ecl136II (3456)

3501 ATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCCTGATTACTAGTCAAAACAACTCCATTGACGTCAATGGGGTGGAGACTTG
SpeI (3554)

3601 GAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCA
SnaBI (3682)

3701 AGTAGGAAAGTCCATAAAGTCACTGTACTGGGCATAATGCCAGCGGGCCATTTACCCTGATTGACGTCAATAGGGGGCTACTTGGCATATGATACACT
 NdeI (3787)

3801 TGATGTACTGCCAAGTGGGCGTTTACCGTAAATACTCCACCATTGACGTCAATGGAAAGTCCCTATTGGCGTACTATGGGAACATACGTCAATTATTG

3901 ACGTCAATGGGCGGGGTCGTTGGCGGTGACGACAGCGGGCCATTTACCCTAAGTTATGTAACGCTGCAGGTTAATTAAGAACATGTGAGCAAAAGGC
 PacI (3973) **SdaI (3965)** **PciI (3983)**
SbfI (3965) **BspLU11I (3983)**

4001 CAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGA
BspLU11I (3983)

4101 GGTGGCGAAACCCGACAGGACTATAAGATACCAGGCGTTTTCCCCTGGAAGCTCCCTCGTGCCTCTCTGTTCCGACCTGCCGTTACCGGATACCT

4201 GTCCGCTTTCTCCCTTCGGGAAGCGTGGCGTTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCAAGCTGGGCTGTGTG
ApaLI (4297)

4301 CACGAACCCCCGTTACGCCCACCGCTGCGCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATGCCACTGGCAGCAGCCA

4401 CTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGCCTAACTACGGCTACACTAGAAGAACGATTTTGGTAT

4501 CTGCGCTCTGCTGAAGCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGTTTTTTTGTTCGAAG

4601 CAGCAGATTACGCGCAGAAAAAAGATCTCAAGAAGATCCTTTGATCTTTCTACGGGTCTGACGCTCAGTGAACGAAACTCACGTTAAGGGATTT

4701 TGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCCAATAAAATATCTTTATTTTATTACATCTGTGTGTTGTTTTTGTGTGAATCGTAACTA
EagI (4733)
 PacI (4713) **Swal (4722)** **NotI (4732)**

4801 ACATACGCTCTCCATCAAACAAACGAAACAAACAACTAGCAAAATAGGCTGTCCCAAGTCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA