



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

1 GGATCTGCGATCGCTCCGGTGCCCGTCACTGGGCAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTCGGCAATTGAACGGGTGCCTA
 101 GAGAAGGTGGCGGGGTAACGGGAAAGTGATGTCGTACTGGCTCCGCCCTTTTCCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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

201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACCGCGCCCGCCCTACCTGAGGGC
 301 GCCATCCACGCCGGTTGAGTCGCGTTCTGCCGCTCCCGCTGTGGTGCCTCTGAACTGCGTCCGCGCTAGGTAAGTTTAAAGTCAAGTCCGAGTCCGAGCC

NgoMI (441)
NaeI (441)

401 GGGCCTTTGTCGGCGCTCCCTTGAGGCTACCTAGACTCAGCCGGCTCCACGCTTTGCTGACCTGCTTGTCAACTCTACGCTTTTGTTCGTT

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

501 TCTGTTCTGCGCGTTACAGATCCAAGCTGTGACCGCGCTACCTGAGATCACCGGTACGATGCCGTTTCTGCTGAAGACAAGACCTATAAGTATATCTG
 601 CCGCAATTTACAGCAATTTTTCGCAATGTGGATGTTGTAGAGATTTCGCTTACCTGCCTCAGCAAGAGACCCAGGATCGACTCGGGGCCACCTGC
 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 ACACCTCTCAGGGAACCGGGACACCCTCTGGCATCTCTTCAATACCTTCAGCGCGGCCCGCTGGGTGGAGTACTTCACTTTCGGCACTGAGGGGCTGTG
 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 TGCTGAGAGGCCAGGGCCCCACACCTGCTCGGCCACAGCATCCCTACAACAGCTGCAGAGAGAAGGAGCCAAGTTACCCCATGCCTGTCCAGGAG
 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 ACCCAGGCGCCAGAGTCCCCAGGAGAGAATTCAGAGCAAGCCCTGCAGACGCTCAGCCCCAGAGCCATCCCAAGGAATCCAGATGGTGGCCCCCTGGAGT
 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 CCTCCTCTGACTGGCAGCCCTCAGCCCTCAGCTCCAGCGGGCATCAGGAGAAGGACACAGAAGTGGCAGTACCCACAGCAGGTGCGACTCCAG
 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 CCTCACACCATCCCGTGGGCTGTGTCTCATCTGTCTCTTTCAGCCCTTGCCCGTTCCACCCCGAGGCAAGCCGCTTGCCTGGACCCACAGGGTCA
 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 GTTGTATCTACTGGCCTCTTCTCTCTCCTCCTGCTGGCTTGGCTTGCAGGGGTCGAGAGGGTAAACAGGGTGCAGAGAGTACCAGGAGTACCAGGCGAGC
 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 CTATCATCTGCTCAGTGGGCGAGAGGACCTGCCAATCTCTGCCCTCCAAAGTGCCTACCACCTTGATGCCTGTGAACACAGTGGCCCTGAAAGTCC
 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 K L P T S S K P P G A V P S N A L T N A P P
 1601 TCCAAATTGCCATCAACTCAACCCGTGCTGGCATGGTGCATCCAAAGTGCCTACTAGCATGGTGTCCACCAAGGTGTCTGCCAGCACAGTCCCCACTG
 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 TTGGCATGGGGCCCTGCCATGGCCAGAGAGAATGAGTATAAGTCCGAGGGCACCTTTGGGATCCACGTGGCTGAGAACCCAGCATCCAGCTCCTGG
 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 AGGGCAACCTGGCCACCTGCGGACCCGATGGCGGCCAGCCAGCCAGCGAAGTCCAGGAGAGGGAGGTGCCATGCCACAGGCCCTCACC
 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 TGGGCTCTGTGGTCCAGTGGCTGTGACAGGGGTGCTGGTAGTACACTCCTGGTGGTGTGTACCGCGCGCTGTGCACGGATCCCTATCCCTATGAT
 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 GTGCCAGACTATGCTGGCTATCCATATGATGTTCTGATTATGCTGGATACCCTTATGATGTGCCAGACTATGCCTAAAGCTAGCTGGCCAGACATGATA
 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 AGATACATTGATGAGTTGGACAACCAACTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTA

HpaI (2417)
MfeI (2428)

2401 TAAGTGAATAAAACAAGTTAAACAACAACCAATTGCATTTATGTTTCAGGTTACGGGGAGGTGTGGAGGTTTTTAAAGCAAGTAAACCTCTA

EcoRI (2513)

2501 CAAATGTGGTATGGAATTTCAAATACAGCATAGCAAAAACCTTAACTCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGG
 2601 CATCAGGGGCTGTTGCAATGTGCATTAGCTGTTTGCAGCCTCACCTCTTTTATGAGTAAAGATATAGTGTATTTTCCAAGGTTTGAACACTGCTC

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

2701 TCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTATGAAAAATTCAGAAATAATTTAAATACATCATTGCAATGAAATAAATGTT

2801 TTTTATTAGGCAGAAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGAACCTTTAATAGAAATTGGACA

2901 GCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCAATGAGCAC
 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 ACAGCCACAATGGTGTCAAAGTCTTCTGCCGGTGTCTCACAGCAGACCAATGGCAATGGTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAA
 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 TGTGGACAGCAGAGATGATCTCCCAAGTCTTGGTCTGATGGCCGCCGACATGGTGTCTGTCTCATAGAGCATGGTGTCTTCTCAGTGGCGAC
 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
 SacI (3456)
 Ecl136II (3456)

3401 TTAATTGTCAAACACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCTACCGCC
SpeI (3554)

3501 ATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAACAACTCCATTGACGTCAATGGGGTGGAGACTTG
SnaBI (3682)

3601 GAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCA
NdeI (3787)

3701 AGTAGGAAAGTCCATAAAGTTCATGTACTGGGCATAATGCCAGCGGGCCATTTACCCTGATTGACGTCAATAGGGGGCTACTTGGCATATGATACACT
 3801 TGATGTACTGCCAAGTGGGCGTTTACCGTAAATACTCCACCATTGACGTCAATGGAAAGTCCCTATTGGCGTACTATGGGAACATACGTCAATTATTG

3901 ACGTCAATGGGCGGGGTCGTTGGCGGTGACGCCAGCGGGCCATTTACCCTAAGTTATGTAACGCCTGCAGGTTAATTAAGAACATGTGAGCAAAAGGC
 4001 CAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGA
 4101 GGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTTCCCTGGAAGCTCCCTCGTGCCTCTCTGTTCCGACCTGCCGTTACCGGATACCT
PacI (3973) **SdaI (3965)** **PciI (3983)**
SbfI (3965) **BspLU11I (3983)**

4201 GTCCGCTTTCTCCCTTCGGGAAGCGTGGCGTTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCAAGCTGGGCTGTGTG
ApaLI (4297)

4301 CACGAACCCCCGTTACGCCCAGCGCTGCGCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATGCCACTGGCAGCAGCCA
 4401 CTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGCCTAACTACGGCTACACTAGAAGAACGATTTTGGTAT
 4501 CTGCGCTCTGCTGAAGCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGTTTTTTTGTTCGAAG
 4601 CAGCAGATTACGCGCAGAAAAAAGATCTCAAGAAGATCCTTTGATCTTTCTACGGGTCTGACGCTCAGTGAACGAAACTCACGTTAAGGGATTT
EagI (4733)
 PacI (4713) **Swal (4722)** **NotI (4732)**

4701 TGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCCAATAAAATATCTTTATTTTATTACATCTGTGTGTTGTTTTTGTGTGAATCGTAACTA
 4801 ACATACGCTCTCCATCAAACAAACGAAACAAACAACTAGCAAAATAGGCTGTCCCAAGTGAAGTGCAGGTGCCAGAACATTTCTCTATCGAA