



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

1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGCAGAGCCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
 101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Bsu36I (291)
Psp1406I (203) **EcoNI (287)**

201 GTGAACGTTCTTTTTTCGCAACGGGTTTGGCCGAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACAGCGCCCGCCCTACCTGAGGCC
 301 GCCATCCACGCGGTTGAGTCGCGTTCTGCCGCTCCCGCCTGTGGTGCCCTCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)

401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGTCTTTGTTTCGTTT

BstEII (555)
AgeI (552) **NcoI (560)**

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCCTACCTGAGATCACCGGTACCATTGGCGGCGCCGAGCGGGGCTTGGTCCACCTTCCA
1▶ M A A P S A G S W S T F Q

NsiI (655) **SphI (653)** **NheI (699)**

601 GCACAAGGAGCTGATGGCCGCTGACAGGGGACGCAGGATATTGGGAGTGTGTGGCATGCATCCTCATCATCAGGAAACTCTAAAAAAGAACCGAGTGGTG
 13▶ H K E L M A A D R G R R I L G V C G M H P H H Q E T L K K N R V V

XmnI (733)

701 CTAGCCAAACAGCTGTTGTTGAGCGAATTGTTAGAACATCTTCTGGAGAAGACATCATCACCTTGGAAATGAGGGAGCTCATCCAGGCCAAAGTGGGCA
 47▶ L A K Q L L L S E L L E H L L E K D I I T L E M R E L I Q A K V G

SmaI (843) **EcoO109I (843)**

801 GTTTCAGCCAGAATGTGGAACCTCCTCAACTTGGCTGCCTAAGAGGGTCCCAAGCTTTTGTATGCCTTCTGTGAAGCACTGAGGGAGACCAAGCAAGGCCA
 80▶ S F S Q N V E L L N L L P K R G P Q A F D A F C E A L R E T K Q G H

PshAI (970)

901 CCTGGAGGATATGTTGCTCACCACCTTTCTGGGCTTACAGATGACTCCACCGTTGAGCTGTGACTACGACTTGTGCTCCCTTTTCCGGTGTGTGAG
 113▶ L E D M L L T T L S G L Q H V L P P L S C D Y D L S L P F P V C E

SalI (1029)

1001 TCCTGTCCCTTTACAAGAAGCTCCGCCTGTGACAGATACTGTGGAACACTCCCTAGACAATAAAGTGGTCTGTCTGCCTTCAGGTGAAGCCTTGCA
 147▶ S C P L Y K K L R L S T D T V E H S L D N K D G P V C L Q V K P C

ApaLI (1183)

1101 CTCCTGAATTTTATCAAACACACTTCCAGCTGGCATATAGGTTGCAGTCTCGGCCTCGTGGCCTAGCACTGGTGTGAGCAATGTGCACCTTCACTGGAGA
 180▶ T P E F Y Q T H F Q L A Y R L Q S R P R G L A L V L S N V H F T G E

ScaI (1240)

1201 GAAAGAAGTGAATTTTCGCTCTGGAGGGGATGTGGACCACAGTACTCTAGTACCCTTCAAGCTTTTGGGCTATGACGTCCATGTTCTATGTGACCAG
 213▶ K E L E F R S G G D V D H S T L V T L F K L L G Y D V H V L C D Q
 1301 ACTGCACAGGAAATGCAAGAGAACTGCAGAATTTTGCACAGTTACCTGCACACCGAGTACGGACTCCTGCATCGTGGCACTCCTCTGCATGGTGTGG
 247▶ T A Q E M Q E K L Q N F A Q L P A H R V T D S C I V A L L S H G V

XcmI (1406)

1401 AGGGCGCCATCTATGGTGTGGATGGGAAACTGTCCAGCTCCAAGAGGTTTTTTCAGCTCTTTGACAACGCCAAGTCCCAAGCCCTACAGAACAAACAAA
 280▶ E G A I Y G V D G K L L Q L Q E V F Q L F D N A N C P S L Q N K P K

StuI (1514) **XcmI (1512)** **BstXI (1551)** **BamHI (1576)**

1501 AATGTTCTTCATCCAGGCCTGCCGTGGAGATGAGACTGATCGTGGGGTTGACCAACAAGATGGAAAGAACCACGCAGGATCCCTGGGTGCGAGGAGAGT
 313▶ M F F I Q A C R G D E T D R G V D Q Q D G K N H A G S P G C E E S
 1601 GATGCCGGTAAAGAAAAGTTGCCGAAGATGAGACTGCCACCGCTCAGACATGATATGCGGCTATGCCTGCCTCAAAGGACTGCCGCCATGCGGAACA
 347▶ D A G K E K L P K M R L P T R S D M I C G Y A C L K G T A A M R N

BsrBI (1747) **BbrPI (1765)**

1701 CCAACGAGGTTCTCGGTACATCGAGGCTCTTGTCAAGTGTCTTCTGAGCGGCTTGTGATATGCACGTGGCCGACATGCTGGTTAAGTGAACGCACT
 380▶ T K R G S W Y I E A L A Q V F S E R A C D M H V A D M L V K V N A L

AgeI (1841) **SgrAI (1840)** **DraIII (1872)** **BstAPI (1871)**

1801 TATCAAGGATCGGGAAGTTATGCTCCTGGCACAGAATCCACCGGTGCAAGGAGATGTCTGAATACTGCAGCACTCTGTGCCCCACCTCTACCTGTT
 413▶ I K D R E G Y A P G T E F H R C K E M S E Y C S T L C R H L Y L F

AvrII (1929) **MscI (1941)**

1901 CCAGGACACCTCCACATGATGTACCTCCTAGTCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTG
 447▶ P G H P P T •

HpaI (2073) **MfeI (2084)**

2001 AAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAAACAAGTTAAACAACAACAATTGCATTCATTTT

EcoRI (2169)

2101 ATGTTTCAGGTTCCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCTAAAATACAGCATAGCAAACTTTA
 2201 ACCTCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCA

SapI (2351)

2301 CTTCTTTTCATGGAGTTAAGATATAGTATTTTCCCAAGTTTGAAGTACTGCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTT

2401 **SspI (2408)** SwaI (2422) EcoO109I (2483)
 TTTAGTAAATATTTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATC

2501 CCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTAAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAGG
 141 • N R T Y K L

2601 GGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGCACATGC
 133 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 R C M G

2701 **BstXI (2712)**
 CACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGC
 100 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 N S V A

2801 **StuI (2847)**
 AGACCCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTGTATGGCC
 67 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 T R I A

2901 **BbsI (2993)** **XmnI (2989)**
 GCCCCGACATGGTGTGTTGTCCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCA
 33 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 F T K M

3001 **AseI (3055)**
 TGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGAC
 0

3101 GGTCACTAAACGAGCTCTGCTTATATAGACCTCCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTC

3201 **SpeI (3210)**
 CCGTTGATTTACTAGTCAAAACAAACTCCATTGACGTC AATGGGGTGGAGACTTGGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTAC

3301 **SnaBI (3338)**
 TGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTA CTACTGGGCATAATGCCAGG

3401 **NdeI (3443)**
 CGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTA CTACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCCA

3501 TTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGGGGGGTCTGGTGGCGGTGAGCCAGGCGGGCCA

3601 **SdaI (3621)** **PacI (3629)** **BspLU11I (3639)**
 TTTACCGTAAGTTATGTAACGCCTGCAGGTTAATTAGGAACATGTGAGCAAAAAGGCCAGCAAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGGTGGCGTT

3701 TTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATAACAGGCGTTTCCC

3801 CCTGGAAGCTCCCTCGTGGCTCTCTGTTCGACCCTGCCGTTACCGGATACCTGTCCGCCTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCT

3901 **ApaLI (3953)**
 CACGCTGTAGGTATCTCAGTTTCGGTGTAGGTCGTTGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTACGCCGACCGCTGCGCTTATCCGGTAA

4001 CTATCGTCTTGAGTCCAACCCGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGCGGTGCTACA

4101 GAGTTCCTGAAGTGGTGGCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTA

4201 GCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTT

4301 **EagI (4389)** **PacI (4369)** **SwaI (4378)** **NotI (4388)**
 GATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCGCAATA

4401 AAATATCTTTATTTTATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAAACTAGC

4501 AAAATAGGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA