



PvuI (7)
SgfI (6) 1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA MfeI (82)

101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGACTGGTCCGCCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245)
Psp1406I (203) 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGGCCGAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACCGCGCCCGCCGCCCTACCTGAGGCC PvuII (239) **Bsu36I (291)**

301 GCCATCCACGCGGTTGAGTGCAGTCTGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGTCTTTGTTTCGTTT

KasI (535) 501 TCTGTTTGTCCGCCGTTACAGATCCAAGCTGTGACCGGGCGCTACCTGAGATCACCGGTCAACATGTGTCAATCACGCTACCTCCTTTTTGGCCACCCT AgeI (552)
1 M C Q S R Y L L F L A T L

XcmI (689)
601 TGCCCTCTAAACACCTCAGTTTGGCCAGGGTCATTCCAGTCTCTGGACCTGCCAGGTGTCTTAGCCAGTCCCGAAACCTGCTGAAGACCACAGATGAC 13 A L L N H L S L A R V I P V S G P A R C L S Q S R N L L K T T D D

BspHI [m] (757)
ClaI (754)
701 ATGGTGAAGACGGCCAGAGAAAAGCTGAAACATTATTCCTGCACTGCTGAAGACATCGATCATGAAGACATCACACGGGACCAAACAGCACATTGAAGA 47 M V K T A R E K L K H Y S C T A E D I D H E D I T R D Q T S T L K
801 CCTGTTTACCCTGAACTACACAAGAAGGAGTTGCTGGCTACTAGAGAGACTTCTCCACAACAAGAGGGAGCTGCTGCCCCACAGAAAGCTG 80 T C L P L E L H K N E S C L A T R E T S S T T R G S C L P P Q K T S
901 TTTGATGATGACCTGTGCTTGGTAGCATCTATGAGGACTTGAAGATGTACCAGACAGAGTTCCAGGCCATCAACGCAGCACCTCAGAATCACAAACAT 113 L M M T L C L G S I Y E D L K M Y Q T E F Q A I N A A L Q N H N H

XbaI (1011) **SphI (1022)** **ClaI (1036)**
1001 CAGCAGATCATTCTAGACAAGGGCATGCTGGTGGCCATCGATGAGCTGATGCAGTCTCTGAATCATAATGGCGAGACTCTGCGCCAGAAACCTCCTGTGG 147 Q Q I I L D K G M L V A I D E L M Q S L N H N G E T L R Q K P P V
1101 GAGAAGCAGACCCCTACAGAGTGAAGCTGCTGATCCTGCTTACGCCTTCAGCACCCGCGTCTGACCATCAACAGGGTGTGGGCTATCTGAG 180 G E A D P Y R V K M K L C I L L H A F S T R V V T I N R V M G Y L S

Acc65I (1221)
1201 CTCCGCCGTTCTGGAGTAGGGGTACCTGGAGTGGGCGGATCTATGTGGGAGCTGGAGAAAGCGTTTATGTTGTAGAGGTGGACTGGACTCCCGATGCC 213 S A V P G V G V P G V G G S M W E L E K D V Y V V E V D W T P D A
1301 CCTGGAGAAAACAGTGAACCTCACCTGTGACACGCTGAAGAAGATGACATCACCTGGACCTCAGACCAGAGACATGGAGTCATAGGCTCTGAAAAGACCC 247 P G E T V N L T C D T P E E D D I T W T S D Q R H G V I G S G K T

XbaI (1422)
1401 TGACCATCACTGTCAAAGAGTTTCTAGATGCTGGCCAGTACACCTGCCACAAAGGAGGCGAGACTCTGAGCCACTCACATCTGCTGCTCCACAAGAAGGA 280 L T I T V K E F L D A G Q Y T C H K G G E T L S H S H L L L H K K E

BspEI (1576) **BbrPI (1587)**
1501 AAATGGAATTTGGTCCACTGAAATTTAAAAAATTTCAAAAACAAGACTTTTCTGAAGTGTGAAGCACAAATTAACCTCCGACGGTTCACGTGCTCATGG 313 N G I W S T E I L K N F K N K T F L K C E A P N Y S G R F T C S W
1601 CTGGTGCAAAGAAACATGGACTTGAAGTTCAACATCAAGAGCAGTAGCAGTTCCTGACTCTCGGGCAGTGACATGTGGAATGGCGTCTCTGCTGCAG 347 L V Q R N M D L K F N I K S S S S P D S R A V T C G M A S L S A
1701 AGAAGGTCACACTGGACCAAGGGACTATGAGAAGTATTCAAGTGTCTGCCAGGAGGATGTCACTGCCCAACTGCCGAGGAGACCCTGCCATTGAACT 380 E K V T L D Q R D Y E K Y S V S C Q E D V T C P T A E E T L P I E L
1801 GGGCTTGGAAAGCAGCAGCAGATAAATATGAGAACTACAGCACCAGCTTCTTCATCAGGACATCATCAAACCAGACECCGCCAAGAATCTGCAGATG 413 A L E A R Q Q N K Y E N Y S T S F F I R D I I K P D P P K N L Q M

BstBI (1991) **Bsp119I (1991)**
PvuII (1929)
1901 AAGCCTTTGAAGAACTCACAGGTGAGGTGAGTACCCTGACTCCTGGAGCACTCCCATTCCTACTTCTCCCTCAAGTTCTTTGTTTGAATCC 447 K P L K N S Q V E V S W E Y P D S W S T P H S Y F S L K F F V R I
2001 AGCGCAAGAAAAGAAAAGATGAAGGAGACAGAGGGGGTGAACAGAAAGGTGCGTTCCTCGTAGAGAAGACATCTACCGAAGTCCAATGCAAAGGCGG 480 Q R K K E K M K E T E E G C N Q K G A F L V E K T S T E V Q C K G G

BstAPI (2188)
2101 GAATGCTGCGTGCAAGCTCAGGATCGCTATTACAATTCCTCATGCAGCAAGTGGCATGTGTTCCCTGCAGGGTCCGATCCTAGGATGCAACGGATGCT SdaI (2165) **AvrII (2180)** **NheI (2197)**
513 N V C V Q A Q D R Y Y N S S C S K W A C V P C R V R S •

2201 AGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAATAAATGCTTTATTTGTGAAATTTGTGATGCTATTG

HpaI (2335) **MfeI (2346)**
2301 CTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAACATTGCATTCATTTTATGTTTCAGGTTCAAGGGGAGGTGTGGGAGGTTTTTTA

EcoRI (2431)
2401 AAGCAAGTAAACCTCTACAATGTGGTATGGAATCTAAAATACAGCATAGCAAACCTTAACTCCAAATCAAGCCTCTACTTGAATCCTTTTCTGAG
2501 GGATGAATAAGGCATAGGCATCAGGGGCTGTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGTATTTTCCC

SapI (2613) **SspI (2670)** **SwaI (2684)**
2601 AAGGTTTGAAGTACTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTTAGTAAAATATTCAGAAAATAATTTAAATACATCATT

EcoO109I (2745)

2701 GCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACC
2801 TTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCC
141 • N R T Y K L P I L E E I T T K V L K G
2901 ATTCACTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGTCTCTGCACATGCCACAGGGGCTGACCACCCTGATGGATCTGTCCACCTCA
121 N M E 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
3001 TCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCCTTCTGCCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTGACCC
87 D S Y P 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
StuI (3109)
3101 TGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGTGTTGTCTCATAGAGCATGGT
54 G I Y 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
XmnI (3251)
3201 GATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGTCTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCC
21 I K E T A V E V L E L D Q Q S I N F T K M
AseI (3317)
3301 GATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCCTAAACGAGCTCTGCTTATATAGACCTCCAC
SpeI (3472)
3401 CGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCCTTGATTTACTAGTCAAAAACAACTCCCATTGACGT
3501 CAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAA
SnaBI (3600)
3601 TACGTAGATGTAAGTCCCAAGTAGGAAAGTCCCATAAAGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCAATTGACGTCAATAGGGGGCGTA
NdeI (3705)
3701 CTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGG
SdaI (3883) PacI (3891)
3801 GAACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCTGCAGGTTAATTAAG
3901 AACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAA
4001 ATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTTCCCCCTGGAAGCTCCCTCGTGGCTCTCCTGTTCCGACCCT
4101 GCCGCTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTTTCATAGCTACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCG
ApaLI (4215)
4201 TCCAAGCTGGGCTGTGTGCACGAACCCCCGTTAGCCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTAT
4301 CGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAG
4401 AGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGT
4501 GGTTTTTTTGGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAACGAAA
EagI (4651)
PacI (4631) SmaI (4640) NotI (4650)
4601 ACTCACGTTAAGGGATTTTGGTCAATGGCTAGTTAATTAACATTTAAATCAGCGGCCAATAAAAATATCTTTATTTTTCATTACATCTGTGTGTTGGTTTT
4701 TTGTGTAATCGTAACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAAATAGGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAA
4801 CATTCTCTATCGAA