



125

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

101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGCTGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) 201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACACGCCCGCCGCCCTACCTGAGGCC **HindIII (245)** **Bsu36I (291)** **EcoNI (287)**

301 GCCATCCACGCCGGTTGAGTCGCGTTCTGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTCTCAACTCTACGTCTTTGTTTCGTTT

NgoMIV (441)
NaeI (441)

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCCTACCTGAGATCACCGGTCACCATGGCTAGTTCGAGGGGCTCGGCAGCGCCTGAAGGGCAG **NcoI (560)** **BstEII (555)** **AgeI (552)** **KasI (535)**
1▶ M A S R G A R Q R L K G S

601 CGGGCCAGCAGTGGGATACGGCCCGCTGCGGACAAGCTGCGGGAGCTGCTGGGCAGCCGAGAGGCGGGCGCGGAGCACCGGACCGAGTTATCT **RsrII (685)**
13▶ G A S S G D T A P A A D K L R E L L G S R E A G G A E H R T E L S
701 GGAACAAAGCAGGACAAGTCTGGGCACCTGAAGGATCTACTGCTTCAAGTGTCTGCTTTCAGCAAGTTATGTGCTGCTCTCTGAGCAACATCTCTG
47▶ G N K A G Q V W A P E G S T A F K C L L S A R L C A A L S N I S

801 ACTGTGATGAAACATTCAACTACTGGGAGCCAAACACACTACCTCATCTATGGGGAAGGGTTTCAGACTGGGAATATCCCCAGCATATGCCATTCGCTC
80▶ D C D E T F N Y W E P T H Y L I Y G E G F Q T W E Y S P A Y A I R S **NdeI (884)**

901 CTATGCTTACCTGTTGCTTCATGCCTGGCCAGCTGCATTTTCATGCAAGAATTTACAAACTAATAAGATTCTTGTGTTTTACTTTTTGCGATGCTTCTG
113▶ Y A Y L L L H A W P A A F H A R I L Q T N K I L V F Y F L R C L L **EcoRI (947)**

1001 GCTTTTGTGAGCTGTATTTGTGAACCTTACTTTTACAAGCTGTGTGCAAGAAGTTGGGTTGCACGTGAGTCGAATGATGCTAGCCTTCTTGGTTCTCA
147▶ A F V S C I C E L Y F Y K A V C K K F G L H V S R M M L A F L V L **BbrPI (1063)** **NheI (1080)**

1101 GCACTGGCATGTTTTGCTCATCATCAGCATTCTTCTAGTAGCTTGTATGTACACTACGTTGATAGCCATGACTGGATGGTATATGGACAAGACTTC
180▶ S T G M F C S S S A F L P S S F C M Y T T L I A M T G W Y M D K T S **BsrGI (1151)** **XcmI (1199)**

1201 CATTGCTGTGCTGGGAGTAGCAGCTGGGCTATCTTAGGCTGGCCATTGAGTGCAGCTCTTGGTTTACCATTGCCTTTGATTTGCTGGTCATGAAACAC
213▶ I A V L G V A A G A I L G W P F S A A L G L P I A F D L L V M K H **BspHI (1289)**

1301 AGGTGGAAGAGTTTCTTTTATTGGTTCGCTGATGGCCCTCATACTATTTCTGGTGCCTGTGGTGGCTATTGACAGCTACTATTATGGGAAGTTGGTGATTG
247▶ R W K S F F H W S L M A L I L F L V P V V V I D S Y Y Y G K L V I

1401 CACCCTCAACATTGTTTTGTATAATGTCTTTACTCCTCATGGACCTGATCTTATGGTACAGAACCCCTGGTATTTCTATTTAATTAATGATTTCTGAA
280▶ A P L N I V L Y N V F T P H G P D L Y G T E P W Y F Y L I N G F L N **AseI (1483)**

1501 TTTCAATGTAGCCTTTGCTTTGGCTCTCCTAGTCTACCACTGACTTCTTATGGAATACCTGCTGCAGAGATTTTCATGTTTCAAGATTTAGGCCACCCG
313▶ F N V A F A L A L L V L P L T S L M E Y L L Q R F H V Q N L G H P **PstI (1564)**

1601 TATTGGCTTACCTTGGCTCCAATGTATATTTGGTTTATAATTTCTTTCATCCAGCCTCACAAAGAGGAGATTTCTTTCCCTGTGTATCCACTTATAT
347▶ Y W L T L A P M Y I W F I I F F I Q P H K E E R F L F P V Y P L I **XcmI (1618)**

1701 GTCTCTGTGGCGCTGTGGCTCTCTGCACTTCCAGAAATGTTACCCTTTGTGTTTCAACGATATCGCCTGGAGCACTATACTGTGACATCGAATTGGCT
380▶ C L C G A V A L S A L Q K C Y H F V F Q R Y R L E H Y T V T S N W L **DraIII (1744)**

1801 GGCATTAGGAAGTCTTCTGTTTGGGCTCTTGTCTTTTCTCGCTCTGTGGCACTGTTTCAGAGGATATCACGGGCCCTTGATTTGTATCCAGAATTT
413▶ A L G T V F L F G L L S F S R S V A L F R G Y H G P L D L Y P E F **BsaBI (1882)** **Bsp120I (1873)**

1901 TACCGAATTGCTACAGACCAACCATCCACACTGTCCAGAAAGCAGACCTGTGAATGTCTGTGGGAAAAGAGTGGTATCGATTTCCAGCAGCTTCC
447▶ Y R I A T D P T I H T V P E G R P V N V C V G K E W Y R F P S S F **ClaI (1979)**

2001 TTCTTCTGACAATTGGCAGCTTCAAGTTCATCCATCAGAGTTTCAGAGGTCAGTTACCAAAACCTTTTGCAGAAGGACCTCTGGCCACCCGGATTGTTC
480▶ L L P D N W Q L Q F I P S E F R G Q L P K P F A E G P L A T R I V P

2101 TACTGACATGAATGACCAGAATCTAGAAGACCCATCCAGATATATTGATATCAGTAAATGCCATTATTTAGTGGATTTGGACACCATGAGAGAAACACC
513▶ T D M N D Q N L E E P S R Y I D I S K C H Y L V D L D T M R E T P **XbaI (2121)** **XmaI (2198)**

2201 CGGGAGCCAAAATATTCATCCAATAAAGAAGAATGGATCAGCTTGGCCTATAGACCATTCTTGTATGCTTCTAGATCTTCAAAGCTGCTCGGGCATTCT
547▶ R E P K Y S S N K E E W I S L A Y R P F L D A S R S S K L L R A F **BglII (2272)** **XbaI (2269)**

2301 ATGTCCTTCTGTCAGATCAGTATACAGTGTACGTAACACTACCATCCTCAAACCCGGAAAGCAAAGCAAATCAGGAAGAAAAGTGGAGGTAGCA
580▶ Y V P F L S D Q Y T V Y V N Y T I L K P R K A K Q I R K K S G G • **SnaBI (2332)** **Bst1107I (2322)**

2401 ACACACCTGTGGCCCAACCTAGGACTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAAAAAATGCT

AvrII (2418)

2501 TTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAACAAACAATTCATTCTTTATGTTTCAGGT

HpaI (2562)

2601 TCAGGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCATAAATACAGCATAGCAAACTTTAACCTCCAAATC

EcoRI (2658)

2701 AAGCCTCTACTTGAATCCTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTGCAGCCTCACCTTCTTTCAT

2801 GGAGTTTAAGATATAGTGATTTTCCCAAGGTTTGAAGTAGCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTATAGTAAAT

SwaI (2911)

2901 ATTCAGAAATAATTTAAATACATCATTGCAATGAAATAAATGTTTTTTATTAGGCAGAAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAG

3001 TAGTTGGACTTAGGGAACAAGGAACCTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTACTTGAGGGGGATGAGTTC

SacI (3172)

3101 CTCAATGGTGGTTTTGACCAGCTTGCCATTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGACATGCCACAGGGGCTG

130 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 C P S

BstXI (3201)

3201 ACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCCAATGG

96 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 S G I A

StuI (3336)

3301 CAATGGCTTCAGCACAGACAGTACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTGATGGCCGCCCGACATG

63 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 A G V H

BspHI (3486)

3401 GTGCTTGTTCCTCATAGAGCATGGTATCTTCTCAGTGGCGACCTCCACCAGTCCAGATCCTGCTGAGAGATGTTGAAGTCTTTCATGATGGCCCTC

30 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

AseI (3544)

3501 CTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTATCTGACGGTTCACTAA

SacI (3601) **SpeI (3699)**

3601 CGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTGGAAAGTCCCGTTGATTTA

3701 CTAGTCAAACAAACTCCATTGACGTCATGGGGTGGAGACTTGGAAATCCCGTGAGTCAAACCGCTATCCACGCCATTGATGACTGCCAAAACC

SnaBI (3827)

3800 GCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTAAGTGGCATAATGCCAGGCGGGCCATTT

NdeI (3932)

3900 ACCGTCATTGACGTCATAGGGGCGTACTTGGCATATGATACACTTGTACTGCAAGTGGCAGTTTACCGTAAATACTCCACCATTGACGTCAA

4000 TGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCAATTATTGACGTCATGGGGGGGGTCTTGGCGGTGAGCCAGGCGGGCCATTTACCGTAA

PstI (4111) **SdaI (4110)** **BspLU111 (4128)**

4100 GTTATGTAACGCCCTGCAGGTTAA TTAAGAACATGTGAGCAAAGGCCAGAAACCGTAAAAAGGCCGCTTGTGCGTTTTTCCATA

4198 GGCTCCGCCCCCTGACGAGCATCAAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCTTTCCCTGGAAG

4298 CTCCTCGTGCCTCTCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGGAAAGCGTGGCGCTTTCATAGCTCACGCTGT

ApaLI (4442)

4398 AGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGTGGGCTGTGTGCACGAACCCCCGTTACGCCGACCCTGCGCTTATCCGGTAACTATCGTC

4498 TTGAGTCCAAACCCGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTT

4598 GAAGTGGTGGCCTAACTACGGCTACACTAGAAGACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGA

4698 TCCGGCAAACAAACCACCCTGGTAGCGGTGGTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTT

EagI (4878) **NotI (4877)**

4798 CTACGGGTCTGACGCTCAGTGGAAACGAAACTCACGTTAAGGGATTTTGGTCTAGGTAATTAACATTTAAATC AGCGGCCGAATAAAATATCT

SwaI (4867)

4898 TTATTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGG

4998 CTGTCCCCAGTGAAGTGAGGTGCCAGAACATTTCTCTATCGAA