



PvuI (7)
SgfI (6) 1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
EcoNI (96)

101 GAGAAGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGACTGGTCCGCCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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

201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACCGCCGCCCGCCCTACCTGAGGCC

301 GCCATCCACGCGGTTGAGTGCAGTTCGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTAACTCTACGCTTTTGTTCGTTT

AgeI (552)

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGTTCAGCATGCCGGAGGAGCGAGCCTCCCGCCGCTAAGAGATT
1 M P E E A S L P P A K R F

EagI (601) **XmaI (619)**

601 CCGGCCGGCTCCTGCCCTCCCGGAGACGAGTAGTGCTGTTGACGGCTGGCGGCGGGCGGAGCTGGAGGAGGCCGAGGCAGACGCCGCCGCTG
13 R P G S C P P G R R V V M L L T A G G G G A G G G R R Q T P P L
701 GCCCAGCCTTCGGCCAGTCCCTACCGCGAGGCCCTGGAGCTGCAGCGCCGAGTCTGCCATCTTCGGGCGCGGGGCGAGCTATTGGCTCAGCTCCGAA
47 A Q P S A S P Y R E A L E L Q R R S L P I F R A R G Q L L A Q L R
801 ACCTGGACAACCGGTCCTCATCGGGGAAACTGGCTCTGGGAAAACAACCTCAGATCCACAGTACCTCTATGAAGGGGAATTAGCCGCCAGGCATCAT
80 N L D N A V L I G E T G S G K T T Q I P Q Y L Y E G G I S R Q G I I
901 CGCTGTGACCCAGCCCGTCGAGTGGCTGCCATCTCTTCCACCAGAGTCTCAGATGAGAAGGACAGAACTCGGGAAGCTGGTTGGCTATACAGTG
113 A V T Q P R R V A A I S L A T R V S D E K R T E L G K L V G Y T V
1001 CGCTTTGAGGATGTCACCTCAGAAGACACCAGGATCAAGTTCTGACAGATGGCATGCTTCTGCGTGAAGCAATTTAGACTCCTTGTTCGGAAGTACA
147 R F E D V T S E D T R I K F L T D G M L L R E A I S D S L L R K Y

BsrBI (1126)

1101 GCTGTGCATTTTGGACGAGGCCATGAGCGGACTATTACACAGATGTGCTCTTTGGAGTGGTGAAGACTGCACAGAAGAGCGAAAGGAGCTAGGGAA
180 S C V I L D E A H E R T I H T D V L F G V V K T A Q K R R K E L G K

SalI (1240) **NeoI (1232)** **ScaI (1256)**

1201 ACTGCCTCTCAAAGTGATTGTGATGTCAGTACCATGGATGTCGACCTGTTTTCTCAGTACTTCAATAGACCCCTGTCTTTACCTTGAGGGTGGCGAG
213 L P L K V I V M S A T M D V D L F S Q Y F N R A P V L Y L E G R Q

BglII (1310)

1301 CATCCAATCCAGATCTTCTATACAAACAGCCTCAGCAGGATTACCTGCATGCAGCCCTGTCTCAGTCTTCCAGATCCACCAGGAAGCTCCTGCTTCTC
247 H P I Q I F Y T K Q P Q Q D Y L H A A L L V S V F Q I H Q E A P A S

BstAPI (1448)

1401 AAGACATCCTGGTGTTCCTCACTGGTCCAGGAGAGATCGAAGCAATGAGCAAGACCTGCAGAGACATCGCAAGGCACCTCCAGATGGCTGCCCTTCAAT
280 Q D I L V F L T G Q E E I E A M S K T C R D I A R H L P D G C P S M

Bsp120I (1559)

1501 GCTCGTCTTCTCTGTACGCCTCCTGCCTATTGCGAGCAGCTTCGAGTCTTCAAGGGGCCCAAAGGGCTATCGAAAAGTGATCATTTCAACCAAC
313 L V L P L Y A S L P Y S Q Q L R V F Q G A P K G Y R K V I I S T N

PshAI (1681)

1601 ATCGCTGAAACCTCCATAACCATTACAGGAATAAAATATGTAGTTGACACGGGCATGGTTAAAGCAAAGAAAGTATAACCTGACAGTGGTCTTGGAGTAC
347 I A E T S I T I T G I K Y V V D T G M V K A K K Y N P D S G L E V

BsrGI (1704) **StuI (1727)**

1701 TAGCTGTACAGAGATCAAAAGACCCAGGCTGGCAGCGCACAGGCAGGGCTGGGCGAGAGGACAGTGGCATCTGCTACCGACTCTACACTGAGGACGA
380 L A V Q R V S K T Q A W Q R T G R A G R E D S G I C Y R L Y T E D E
1801 GTTTGAGAAGTTCGAGAAGATGACGGTGCAGAGATCCAGAGGTGTAACCTGGCCAGTGAATACTTCAAGTCCAGCTCCTAGCAATGAAAGTCCCAAATGTGCTC
413 F E K F E K M T V P E I Q R C N L A S V I L Q L L A M K V P N V L

XcmI (1946)

1901 ACCTTTGACTTCATGTCCAAACCTTCTCCAGATCACATTGAGGCGGCCATTGGCCAGCTGGACCTGTTAGGTGCTTGAACATAAGGATGACCAGCTTA
447 T F D F M S K P S P D H I E A A I A Q L D L L G A L E H K D D Q L
2001 CCCTGACTCCAATTGGAAGAAAGATGGCAGCATTCCCTTTAGAGCCAGATTTGCCAAAACCTATCCTCCTGCTCCTCAAATTCCTGATCCGAAGAGAT
480 T L T P I G R K M A A F P L E P R F A K T I L L S S K F H C T E E I

PshAI (2103) **Tth111I (2128)** **BspEI (2177)**

2101 TCTGACCATAGTCTCCCTGCTATCTGTGGACAGTGTCTTTACAACCTCCTGCCGGAGAGATGAGGTGCAGAGTGTCCGGAAGAAATTCATATCCAGT
513 L T I V S L L S V D S V L Y N P P A R R D E V Q S V R K K F I S S
2201 GAGGGGATCACATCACCTGCTCAATATCTATCGGACCTTCAAAAACATCGGTGGGAATAAGGACTGGTGCAAGAGAAATTTGTCAACAGCAAGAATA
547 E G D H I T L L N I Y R T F K N I G G N K D W C K E N F V N S K N

XhoI (2372)

2301 TGCTGCTAGTAGTGAAGTCAGAGCACAGCTGAGAGAAATCTGCTTAAAGATGTCAATGCCAATCATGTCATCTCGAGGGGACATGGAGAGTGTCCGCCG
580 M L L V A E V R A Q L R E I C L K M S M P I M S S R G D M E S V R R

BstXI (2439)

2401 TTGCATGGCTCACAGCCTTTTATGAATACTGTGAACCTCAGACAGATGGCCACTATGCCACCACGGACACACATCAGCCAGTGGCCATCCACCCATCA
613 C M A H S L F M N T A E L Q T D G T Y A T T D T H Q P V A I H P S
2501 TCTGCTCTTCCACTGCAAGCCTGCTGCGTGGTCTACACTTCACTGCTTACACCAACAAATGCTACATGCGTGACCTCTGTGGTGGATGCCGAGT
647 S V L F H C K P A C V V Y T S L L Y T N K C Y M R D L C V V D A E

NheI (2659)

2601 GGCTCTACGAGGCTGCCCTGACTACTTCCAGGAGGAAGCTGAGAACCGCCAGAACTGAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGG
680 W L Y E A A P D Y F R R K L R T A R N •

2701 **HpaI (2797)**
 ACAAACCACTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTT

2801 **EcoRI (2893)**
 AACAAACAATTGCATTCATTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAATGTGGTATGGAATTCT

2901
 AAAATACAGCATAGCAAACTTTAACCTCCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAAT

3001 **SapI (3075)**
 GTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTTAAAGATATAGTGATTTTCCCAAGTTTGAAC TAGCTCTTCATTTCTTTATGTTTTAA

3101 **SspI (3132)** **SwaI (3146)**
 TGCCTGACCTCCACATTCCCTTTTTAGTAAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAG

3201
 ATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTAAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAG

3301
 CTTTAGTTCTGGTGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCATTCTCAATGAGCACAAAGCAGTCAGGAGCATAGT
 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 F C D P A Y D

3401 **SacI (3407)** **BstXI (3436)**
 CAGAGATGAGCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCCAATGGTGTCAA
 108◀ 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 V A V I T D F

3501 **StuI (3571)**
 GTCCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCTCAATGTGGACAGCAGAGATGATC
 75◀ 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 H V A S I I

3601
 TCCCCAGTCTGGTCTGATGGCCGCCGACATGGTGTCTGTTGTCCTCATAGAGCATGGTGTCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCT
 41◀ 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 E V L E L D Q

3701 **AseI (3779)**
 GCTGAGAGATGTTGAAGTCTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTG
 8◀ Q S I N F T K M

3801 **SacI (3836)**
 GATGGCGTCTCCAGCTTATCTGACGGTTCATAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGA

3901 **SpeI (3934)**
 GTTGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAAACAACTCCATTGACGTCAATGGGTGGAGACTTGAAATCCCCGTGAGTCAAAC

4001 **SnaBI (4062)**
 CGCTATCCACGCCATTGATGTAAGTCCGATCATCATGGTAATAGCGATGACTAATACGTAGATGTAAGTCCGATGACTGCAAGTGGAAAGTCCCATAGG

4101 **NdeI (4167)**
 TCATGTAAGTGGCATAATGCCAGGCGGCCATTTACCGTATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGATGTAAGTGGCAGTGGCC

4201
 AGTTTACCGTAAATACTCCACCCATTGACGTCAATGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCAATATTGACGTCAATGGGCGGGGGTGC

4301 **PaeI (4353)** **SdaI (4345)** **BspLU11I (4363)**
 TTGGGCGGTGAGCCAGGCGGCCATTTACCGTAAAGTTATGTAACGCTGAGGTTAAATTAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCG

4401
 TAAAAAGGCCGCTTGTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGA

4501
 CTATAAAGATACCAGCGTTTTCCCCTGGAAGCTCCCTCGTGCCTCTCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGG

4601 **ApaLI (4677)**
 GAAGCGTGGCGCTTTCTCATAGCTACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCAAGCTGGGCTGTGTGCACGAACCCCGTTTCAGCC

4701
 CGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGTAGTCAACCCGGTAAAGACACGACTTATCGCCACTGGCAGCAGCCACTGTTAACAGGATTAGCAGA

4801
 GCGAGGTATGTAGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAG

4901
 TTACCTTCGAAAAAGAGTTGGTAGCTCTTGTATCCGCAAAACAAACCACCGTGGTAGCGGTGTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAA

5001 **PaeI (5093)**
 AAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTA

5101 **EagI (5113)** **SwaI (5102)** **NotI (5112)**
 ACATTTAAATCAGCGGCCGCAATAAAATATCTTTATTTTTCATTACATCTGTGTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAA

5201
 CAAAACGAAACAAAACAACTAGCAAAATAGGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA