



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

101 GAGAAGTGGCGGGGTAACGGAAAGTGATGTCGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245) 201 GTGAACGTTCTTTTTCGCAACGGGTTTCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTTCACGCGCCCGCCCTACCTGAGGCC **Bsu36I (291)**

301 GCCATCCACGCGGGTTGAGTCGCGTTTCTGCCCGCTCCCGCTGTGGTGCCTCCTGAAGTGCCTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441) 401 GGGCCTTTGTCCGGCGCTCCCTTGAGCGCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTCTCAACTCTACGCTTTTGTTCGTTT

NcoI (560)
BstEII (555) 501 TCTGTTCTGCGCGGTACAGATCCAAGCTGTGACCGCGCGCTACCTGAGATCACCGGTACCATTGGCTGACGTTTTCCGGGCAACGACTCCACGGCGTC **XmaI (576)**

AgeI (552) 1▶ M A D V F P G N D S T A S
MscI (608) 601 TCAGGACGTGGCCAAACCGTTCCGCCGCAAAGGGGCGCTGAGGAGAAGAAGCTGACACACCTGCGATATGAACGTTCAAGCAAGCAATTCCTTCAAGCAG **DraIII (655)** **BssHIII (682)**
13▶ Q D V A N R F A R K G A L R Q K N V H E V K D H K F I A R F F K Q
BstAPI (710) 701 CCCACCTTCTGCAGCCACTGCACCGACTTCATCTGGGGTGGGAAACAAGGCTTCCAGTCCAAAGTTTGTGTTTTGGTCCACAAGAGGTGCCATG **PstI (708)**
47▶ P T F C S H C T D F I W G F G K Q G F Q C Q V C C F V V H K R C H
SandI (834) 801 AATTTGTTACTTTTTCTTGTCCGGGTGCGGATAAAGGACCCGACACTGATGACCCAGGAGCAAGCACAAAGTTCAAATCCACTTACGGAAGCCCCAC
80▶ E F V T F S C P G A D K G P D T D D P R S K H K F K I H T Y G S P T
901 CTTCTGCGATCACTGTGGTCACTGCTCTATGGACTTCCATCAAGGATGAAATGTGACACCTGCGATATGAACGTTCAAGCAAGCAATTCCTTCAAGCAG
113▶ F C D H C G S L L Y G L I H Q G M K C D T C D M N V H K Q C V I N
1001 GTCCCGAGCTCTGCGGAATGGATCACACTGAGAAGAGGGGCGGATTAACCTAAAGGCTGAGGTTGCTGATGAAAAGCTCCATGTCACAGTACGAGATG
147▶ V P S L C G M D H T E K R G R I Y L K A E V A D E K L H V T V R D
BamHI (1119) 1101 CAAAAATCTAATCCCTATGGATCCAAACGGGCTTTCAGATCCTTATGTGAAGCTGAAACTTATTCTGATCCCAAGAACGAAAGCAAGCAAAAAACAA
180▶ A K N L I P M D P N G L S D P Y V K L K L I P D P K N E S K Q K T K
BsrBI (1206) 1201 AACCATCCGCTCCACACTAAATCCGAGTGAATGAGTCTTTACATTCAAATTGAAACCTTCAGACAAAGACCGACTGTCTGTAGAAATCTGGAC
213▶ T I R S T L N P Q W N E S F T F K L K P S D K D R R L S V E I W D **PshAI (1274)**
XmnI (1317) 1301 TGGATCGAACAACAAGGAATGACTTCATGGGATCCCTTTCTTTGGAGTTTCGGAGCTGATGAAGATGCCGGCAGTGGATGTTACAAGTTGCTTAACC
247▶ W D R T T R N D F M G S L S F G V S E L M K M P A S G W Y K L L N **NgoMIV (1368)**
ScaI (1412) 1401 AAGAAGAAGTGTAGTACTACAACGTACCCATTCGGGAAGGGGACGAGGAAAGAAACATGAACTCAGGAGCAAAATTCGAGAAAGCCAAACTTGGCCCTGC
280▶ Q E E G E Y Y N V P I P E G D E E G N M E L R Q K F E K A K L G P A
1501 TGGCAACAAAGTCATCAGTCCCTCTGAAGACAGAAACAACCTTCCAACAACCTTGCAGGAGTGAACCTCACGACTTCAATTTCTCATGGTGTGGGA
313▶ G N K V I S P S E D R K Q P S N N L D R V K L T D F N F L M V L G
1601 AAGGGAGTTTGGAAAGGTGATGCTTGGCCACAGGAAGGCACAGAAGAACTGTATGCAATCAAATCCTGAAGAAGGATGTGGTATTGAGGATGATG
347▶ K G S F G K V M L A D R K G T E E L Y A I K I L K K D V V I Q D D
NcoI (1712) 1701 ACGTGGAGTGCACCATGGTAGAAAAGCGAGTCTTGGCCCTGCTTGACAAACCCCGTTTTCGACGAGCTGCACTCCTGCTTCCAGACAGTGGATCGGCT
380▶ D V E C T M V E K R V L A L L D K P P F L T Q L H S C F Q T V D R L **BsaBI**
1801 GTACTTCGTATGGAATATGTCAACGGTGGGACCTCATGTACCACATTCAGCAAGTAGGAAAATTTAAGGAACCACAAGCAGTATTCTATGCGGCAGAG
413▶ Y F V M E Y V N G G D L M Y H I Q Q V G K F K E P Q A V F Y A A E
1901 ATTTCCATCGGATTGTTCTTTCTTCATAAAAGAGGAATCATTTATAGGGATCTGAAGTTAGATAACGTCATGTTGGATTGAGAAGGACATATCAAATTTG
447▶ I S I G L F F L H K R G I I Y R D L K L D N V M L D S E G H I K I
2001 CTGACTTTGGGATGTGCAAGGAACACATGATGGATGAGTACGACAGGACCTTCTGTGGACTCCAGATTATATCGCCAGAGATAAATCGTTATCA
480▶ A D F G M C K E H M M D G V T T R T F C G T P D Y I A P E I I A Y Q
2101 GCCGATGAAAAATCTGTGGACTGGTGGCCCTATGGCGTCTGTTGATGAAATGCTTCCGGGACGCTCCATTTGATGGTGAAGATGAAGACGAGCTA
513▶ P Y G K S V D W W A Y G V L L Y E M L A G Q P P F D G E D E D E L
BstXI (2294) 2201 TTTCACTATATCATGGAGACAACGTTTCTATCCAAAATCCTTGTCCAAGGAGGCTGTTTCTATCTGCAAGGACTGATGACCAACACCCAGCCAAGC
547▶ F Q S I M E H N V S Y P K S L S K E A V S I C K G L M T K H P A K
Bsu36I (2314) 2301 GGCTGGGCTGTGGGCTGAGGGGAGAGGACGTGAGAGAAATGCCTTCTCCGGAGGATCGACTGGGAAAACTGGGAACAGGGAGATCCAGCCACC
580▶ R L G C G P E G E R D V R E H A F F R I D W E K L E N R E I Q P P
2401 ATTCAGCCCAAAGTGTGTGGCAAAGGAGCAGAGAATTTGACAAGTTCTTACACGAGGACAGCCCGTCTTAACACCACCTGATCAGCTGGTTATTGCT
613▶ F K P K V C G K G A E N F D K F F T R G Q P V L T P P D Q L V I A
2501 AACATAGACCAGTCTGATTTTGAAGGGTCTCTGTATGTCAACCCAGTTTGTGACCCCATCTTACAGAGTGCAGTATGAAACTCACCAGCGAGAACAA
647▶ N I D Q S D F E G F S Y V N P Q F V H P I L Q S A V •
MscI (2608) 2601 ACGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGACAAACCACAACCTAGAATGCAGTGAATAAATGCTTTATTTGAAATTTGTGATGC

2701 **HpaI (2740)** MfeI (2751) TATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAAGTTAAACAACAACAAATTGCATTCATTTTATGTTTCAGGTTACAGGGGAGGTGTGGGAGGTT

2801 **EcoRI (2836)** TTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCTAAAATACAGCATAGCAAACCTTAACTCCAATCAAGCCTCACTTGAATCCTTTT

2901 CTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTGAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGATT

3001 **SapI (3018)** **SspI (3075)** SwaI (3089) TTCCAAGTTTGAAGTACTGCTTTCATTTCTTTATGTTTTAAATGCACCTGACCTCCACATTCCTTTTTAGTAAATATTGAGAAATAATTTAAATACA

3101 TCATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAG

3201 GAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGC
 141 • N R T Y K L P I L E E I T T K V L

3301 **SacI (3350)** **BstXI (3379)** TTGCCATTCACTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCA
 122 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 V V R I S R D V

3401 CCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCAGCACAGACAGT
 89 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 I A E A C V T

3501 **StuI (3514)** GACCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCACAGTCTTGGTCTGATGGCCGCCCGACATGGTGTGTTGTCTCATAGAGC
 56 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 H K N D E Y L

3601 **XmnI (3656)** ATGGTGATCTTCTCAGTGGCGACCTCCACCAGTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACT
 22 M T I K E T A V E V L E L D Q Q S I N F T K M

3701 **AseI (3722)** **SacI (3779)** ATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCCTAAACGAGCTCTGCTTATATAGACCT

3801 **SpeI (3877)** CCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGCGGAGTTGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAAAACAACTCCATT

3901 GACGTCATGGGGTGGAGACTTGGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTAAGTCCAAAACCGCATCATCATGGTAATAGCGATG

4001 **SnaBI (4005)** ACTAATACGTAGATGTAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCAATTGACGTCAATAGGGG

4101 **NdeI (4110)** GCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTAC

4201 **PacI (4296)** **PstI (4289)** **SdaI (4288)** TATGGGAACATACGTCATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCTGCAGGTTAA

4301 **BspLU11I (4306)** ITAAGAACATGTGAGCAAAAGGCCAGAAAAGGCCAGGAACCGTAAAAAGGCCGCTGCTGGCGTTTTTCCATAGGCTCCGCCCTGACGAGCATCA

4401 CAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCTGGAAGTCCCTCGTGCCTCTCCTGTTCCG

4501 ACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTCGGGAAGCGTGGCGCTTTCTCATAGCTCAGCTGTAGGTATCTCAGTTCGGTGTAGGTGCG

4601 TTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTGAGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAAGTCCAAACCGGTAAGACACGA

4701 CTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTAC

4801 ACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGCAAAACAAACCACCGCTGGTA

4901 GCGGTGGTTTTTTTGTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAA

5001 **EagI (5056)** **PacI (5036)** **SwaI (5045)** **NotI (5055)** CGAAAACACGTTAAGGGATTTGGTCTAGTTAATTAACATTTAAATCAGCGCCGCAATAAAATATCTTTATTTTATTACATCTGTGTGTTG

5101 GTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAAATAGGCTGTCCCAAGTGCAGGTGC

5201 CAGAACATTTCTCTATCGAA