



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

HindIII (245)
Psp1406I (203) 201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACAGCGCCCGCCGCCCTACCTGAGGCC
PvuII (239)
Bsu36I (291)
301 GCCATCCACGCGGTTGAGTCGCGTTCTGCCGCTCCCGCCTGTGGTGCCTCCTGAAGTGCCTCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
NaeI (441) 401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGTCTTTGTTTCGTTT

KasI (535) 501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCGCTACCTGAGATCACCGGTTCATCATGAAGATGAGACGCTACAAGCTCTTTCTCATGTTCTG
AgeI (552) 1 M K M R R Y K L F L M F C
BspHI (560) 601 TATGGCTGGCCTGTGCCTCATATCCTTCTGCACCTTTTAAGACCTTATCCTATGTACCTTCCCGAGAGAAGTGGCCTCCCTCAGCCCTAACCTCGTA
13 M A G L C L I S F L H F F K T L S Y V T F P R E L A S L S P N L V

BspEI (744) 701 TCCAGCTTCTTGGAAACAATGCCCTGTCACTCCCGAGCCAGTCCCGAGCCGGGTGGCCCCGACCTATTGCGGACACCCCTCTACTCCCACTCTCCCC
47 S S F F W N N A P V T P Q A S P E P G P D L L R T P L Y S H S P
801 TGCTCCAGCCACTGTCCCGAGCAAGGCCACAGAGAACTGCACCGGGTGGACTTCGTGTTGCCGAGGACACACGGAGTATTTGTGCGCACCAAAGC
80 L L Q P L S P S K A T E E L H R V D F V L P E D T T E Y F V R T K A

BstXI (926) 901 TGGTGGTGTGTGCTTCAAACCAGGTACCAGGATGCTGGAGAACTTCGCCAGGGCGGACAGAGGAGAAGCCCGAAGTGTCTGAGGGCTCCTCAGCCCGG
XmaI (995) 113 G G V C F K P G T R M L E K P S P G R T E E K P E V S E G S S A R

BbrPI (1024) 1001 GGACCTGCTCGGAGGCCATGAGGCACGTGTTGAGTACCGGGAGCGCCTGGGAGCCGGGCGACTAGGCGCAAGTGGGTTGAGTGTGTGCTGCCAG
147 G P A R R P M R H V L S T R E R L G S R G T R R K W V E C V C L P

Bsp120I (1108) 1101 GCTGGCACGGGCCAGTTGCGGGTGCCACGTTGGTGCAGTATTCCAACCTGCCACCAAGAACGCCTGGTACCCAGGAGGTACCGAGGCGGGTTAT
180 G W H G P S C G V P T V V Q Y S N L P T K E R L V P R E V P R R V I
1201 CAACGCCATCAACATCAACCACGAGTTGACCTGCTGGATGTGCGTTTCCATGAGCTGGGAGATGTTGTGGACGCTTCTGTTGCTGTGAATCTAATTT
213 N A I N I N H E F D L L D V R F H E L G D V V D A F V V C E S N F

BsrBI (1321) 1301 ACCGCTACGGGAGCCTCGCCGCTCAAGTCCGAGAGATGCTGACCAATGGCACCTTCGAGTACATCCGCCACAAGGTGCTCTATGCTTCTCGGACC
247 T A Y G E P R P L K F R E M L T N G T F E Y I R H K V L Y V F L D
1401 ATTTCCACCTGGTGGCCGTGAGGACGGCTGGATTGCGGATGACTACCTGCGCACCTTCTCACCAGGATGGCGTCTCCCGCTGCGCAACTGCGGCC
280 H F P P G R Q D G W I A D D Y L R T F L T Q D G V S R L R N L R P
1501 CGATGACGCTTTATCATCGACGATGCGGACGAGATCCCTGCGCGTGTGGTGTGCTGTTCTCAAACCTACGATGGCTGGACAGAGCCCTTCGCTTC
313 D D V F I I D D A D E I P A R D G V L F L K L Y D G W T E P F A F

NeoI (1670) 1601 CACATCGGGAAGTCCCTGTATGTTTCTTCTGGAAGCAGCCGGGCACACTGGAGTGGTGTGAGGCTGCACCATGGACATGCTGCAGGCCGTGTATGGGC
347 H M R K S L Y G F F W K Q P G T L E V V S G C T M D M L Q A V Y G
PstI (1681)

ScaI (1727) 1701 TGGATGGCATCCGCTGCGCCGCGCCAGTACTACACCATGCCAACTTCCGGCAGTATGAGAACCACCGCCACATCCTAGTGCAGTGGTCTCTCGG
380 L D G I R L R R R Q Y Y T M P N F R Q Y E N R T G H I L V Q W S L G
1801 CAGCCCCGCACTGCGGGCTGGCATTGCTCCTGTGCTTACACCCGAGGACCTACTTTAAACTCGTGTACGCCAGAATGGGCACTTCCCGCC
413 S P L H F A G W H C S W C F T P E G I Y F K L V S A Q N G D F P R
1901 TGGGGTACTATGAGGACAAGAGGGACCTCAATTACATCCGACGCTTGTGCGACTGGGGATGGTTCGACGGAACGCAGCAGGAGTACCCTCCTGCGG
447 W G D Y E D K R D L N Y I R S L I R T G G W F D G T Q Q E Y P P A

BspLU11I (2012) 2001 ACCCCAGTGGACACATGTATGCTCCTAAATACCTGCTCAAGAATATGACAGTTCGGTACTTGTGAAAAATCCCTACCGGAGCCCAAGAGCACTGA
480 D P S E H M Y A P K Y L L K N Y D Q F R Y L L E N P Y R E P K S T E

KasI (2108) 2101 AGAGGGTGGGCGCCGGAACAGGGCTCAGATGGAAGGCCATCTGCTGTGAGGGCAAGTTGGATACAGTGGAGGGCTAGGGCTGTGCACTTTCACAGGGC
ApaI (2183) 513 E G G R R N Q G S D G R P S A V R G K L D T V E G •

MscI (2224) 2201 TGGTAGGCTGAAATAATGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAAGTGAATGCAGTGAATAAATGCTTTATTT
NheI (2218)

HpaI (2356) 2301 GTGAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAAGTTAAACAACAACATTGCATTCATTTTATGTTTCAGGTTTCAGGG
MfeI (2367)

EcoRI (2452) 2401 GGAGGTGGGAGGTTTTTAAAGCAAGTAAAACCTTACAAAATGTGGTATGGAATTTAAAATACAGCATAGCAAACTTTAACCTCCAATCAAGCCT
2501 CTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTT

2601 TAAGATATAGTGATTTTTCCAAGGTTTGAAGTCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTAGTAAAAATATTCAG SspI (2691)

2701 AAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTG SwaI (2705)

2801 GACCTAGGGAACAAAGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTACTTGAGGGGGATGAGTTCCTCAAT 1441 • N R T Y K L P I L E E I

2901 GGTGGTTTTGACCAGCTTGCATTCACTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGTGACCACC SacI (2966) BstXI (2995)

128 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 V V

3001 CTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCCGTTGCTCACAGCAGACCAATGGCAATGG 94 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 I A

3101 CTTGACGACAGACAGTGACCCTGCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCGAGTCTTGGTCTGATGGCCGCCCGACATGGTGCTT StuI (3130)

61 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 H K

3201 GTTGTCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGATGGCCCTCTATAG XmnI (3272)

28 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

3301 TGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCACAAACGAGCT AseI (3338) SacI (3395)

3401 CTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAAGTCCCCTTGATTTACTAGT SpeI (3493)

3500 CAAAACAACTCCCATTGACGTCAATGGGGTGGAGACTTGAAAATCCCGTGAGTCAAACCGTATCCACGCCATTGATGACTGCCAAAACCGCATCA

3600 TCATGGTAATAGCGATGACTAATACGTAGATGACTGCCAAGTAGGAAAGTCCATAAGGTCACTGACTGGGCATAATGCCAGGCGGGCCATTTACCGTC SnaBI (3621)

3700 ATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGATGACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAA NdeI (3726)

3800 GTCCCTATTGGCGTTACTATGGGAACATACGTCAATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAGTTATG

3900 TAACGCCCTGCAGGTTAA TTAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGCCGCGTTGCTGGCGTTTTTCCATAGGCTCC PstI (3905) SdaI (3904) PacI (3912) BspLU11I (3922)

3998 GCCCCCTGACGAGCATCAGAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCCTGGAAGCTCCCT

4098 CGTGCGCTCTCCTGTTCCGACCTGCCGCTTACCGGATACCTGTCCGCTTTTCCCTTCGGGAAGCGTGGCGCTTTTCTCATAGCTCACGCTGTAGGTAT

4198 CTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTACAGCCGACCGCTGCGCTTATCCGTAACATATCGTCTTGAGT ApaLI (4236)

4298 CCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTG

4398 GTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGC

4498 AAACAACCAACCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGG

4598 GGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCAATAAAAATATCTTTATTT PacI (4652) SwaI (4661) EagI (4672) NotI (4671)

4698 TCATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACATAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCC

4798 CCAGTGCAAGTGCAAGTGCCAGAACATTTCTCTATCGAA