



Bsp120I (6)
PstI (6)
SdaI (6) SpeI (13) AvrII (91)

1 CCTGCAGGGCCACTAGTAAACAGTGTGCTCAATGCTGTGCTACGTGTGTTAGCCACGCGCCAGCCTGAGGAGTCAGGGAAGGCTCCCTAGGCAAA

SacI (138) Ppu10I (184)
NsiI (189)

101 GCCCCAACCCAGAATCAAGTCTTAATGGTTAAAGAGCTCCATCACCCAAAAAGGATTGAGGGCTACCTTCAACTGAACAGCTAATGCATAATCTCAGAA

PshAI (259)

201 ACTGTGAGTCAAATTCCTGGAATAACTCCACTTTATCCCAATCTCCTTGCCACCTAGACCAAGGTCCATTACCACCTGTCCCAGCACTGACTGCG

HindIII (319)

301 ACTGCTGTGGCCACACTAAAGCTTGGCTCAAGACGGAGGAGGAGTGTGAGGAAGCTGCTGCACCAATATGGCTGGTTGAGGCCGCCAAGGTCCTAGAAGGA

401 GGAAGTGGGTAAATGCCATATCCAAAAAGATACAGAAGCCTCAGGTTTTATCGGGGGCAGCAGCTTCTTCTCCTTCCCGACTGTGGCCAAGTCACAA

BsrGI (511)

501 AGCACCCAGCTGTACAGCCAGATGGGGGAAGGGAGGAGATTAGAAGTGTAGGCTAGAGTAGACAAGTATGGACCAGTTTACAATCACGCTATCCCAAGC

601 AGAAAAGTGTGGTGGCTTGACTAGCACGGTGGTAGTAGAGATGGGGTAAAGATTCAAGAGACATCATTGATAGGCAGAACCAATAGGACATGGTAATAA

701 ACTATTCTCAGGAAAGGGAGGAGTGTGGCTTTAGCCATGAGCATCCACCTCTGGGTGGCTCACCCACTTCTGGCAATTCTAGCCACCATGAGTCC

801 CAGGGCTATAGCCCTTTGCTCTGCCGTTGCTCAGCAAGTTACTTGGGGTTCAGTTTTGATAAGAAAAGACTTCTGTGGAGGAATCTGAAGGGAAGGA

NcoI (945) NheI (983)

901 GGAGGAGCTGGCCATTCTGCCTGGGAGGTTGTGGAAGAAGGaccATGGGGGTTCTCATCATCATCATCATGGTATGGCTAGCATGACTGGTGGGA

1 M G G S H H H H H G M A S M T G G

Acc65I (1039)

1001 CAGCAATGGGTCGGATCTGTACGACGATGACGATAAGGTACCTAAGGATCAGCTTGGAGTTGATCCCCTGTTTTACAACGTCGTGACTGGGAAAACC

19 Q Q M G R D L Y D D D D K V P K D Q L G V D P V V L Q R R D W E N

FspI (T199)

1101 CTGGCGTTACCCAACCTAATCGCCTTGCAGCACATCCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGCCCGACCGATCGCCCTTCCAACAGCTGGCG

52 P G V T Q L N R L A A H P P F A S W R N S E E A R T D R P S Q Q L R

1201 CAGCCTGAATGGCGAATGGCGCTTTCGCTGGTTTCCGGCACCAGAAGCGGTGCCGAAAGCTGGCTGGAGTGCATCTTCTGAGGCCGATACTGTCGTC

85 S L N G E W R F A W F P A P E A V P E S W L E C D L P E A D T V V

1301 GTCCCTCAAACCTGGCAGATGCACGGTTACGATCGCCCTTACACCAACGTAACCTATCCCATACGGTCAATCCGCCGTTTGTTCACCGGAGAATC

119 V P S N W Q M H G Y D A P I Y T N V T Y P I T V N P P T V A P T E N

1401 CGACGGGTTGTACTCGCTCACATTTAATGTTGATGAAAGCTGGCTACAGGAAGGCCAGACGCGAATTATTTTTGATGGCGTTAAGCTCGGCCGTTTCATCT

152 P T G C Y S L T F N V D E S W L Q E G Q T R I I F D G V N S A F H L

1501 GTGGTGAACGGGCGCTGGTTCGGTACGGCCAGGACAGTCGTTTCCGCTGTAATTTGACCTGAGCGCATTTTTACGCGCCGGAGAAAACCGCCTCGCG

185 W C N G R W V G Y G Q D S R L P S E F D L S A F L R A G E N R L A

AatII (1680)

1601 GTGATGGTGTGCTGGTGGAGTGACGGCAGTTATCTGGAAGATCAGGATATGTGGCGGATGAGCGGCATTTTCCGTGACGCTCGTTGCTGCATAAACCGA

219 V M V L R W S D G S Y L E D Q D M W R M S G I F R D V S L L H K P

1701 CTACACAAATCAGCGATTTCCATGTTGCCACTCGCTTTAATGATGATTTACGCCGCGCTGTACTGGAGGCTGAAGTTCAGATGTGGCGCGAGTTGCCGTGA

252 T T Q I S D F H V A T R F N D D F S R A V L E A E V Q M C G E L R D

ClaI (1881)

1801 CTACCTACGGGTAACAGTTTCTTTATGGCAGGGTGAACCGCAGGTCGCCAGCGCCACCGCCTTTCGGCGGTGAAATTATCGATGAGCGTGGTGGTTAT

285 Y L R V T V S L W Q G E T Q V A S G T A P F G G E I I D E R G G Y

1901 GCCGATCGCGTCACACTACGCTGAACGTCGAAAACCCGAAACTGTGGAGCGCCGAAATCCCGAATCTCTATCGTGGCGGTGGTTGAACGTCACACCGCCG

319 A D R V T L R L N V E N P K L W S A E I P N L Y R A V V E L H T A

2001 ACGGCAGCTGATTGAAGCAGAAGCTGCGATGTGCGTTCCGCGAGGTCGCGAATTGAAATGGTCTGCTGCTGACTGAACGCAAGCCGTTGCTGATTGCG

352 D G T L I E A E A C D V G F R E V R I E N G L L L L N G K P L L I R

EcoRV (2170)

2101 AGGCGTTAACCGTCACGAGCATCCTCTGCATGGTCAGGTCATGGATGAGCAGACGATGGTGCAGGATATCCTGCTGATGAAGCAGAACAACTTTAAC

385 G V N R H E H H P L H G Q V M D E Q T M V Q D I L L M K Q N N F N

DraIII (2247) SspI (2287)

2201 GCCGTGCGCTGTTTCGATTATCCGAACCATCCGCTGTGGTACAGCTGTGCGACCGCTACGGCCTGTATGTGGTGGATGAAGCCAATATTGAAACCCAGC

419 A V R C S H Y P N H P L W Y T L C D R Y G L Y V V D E A N I E T H

BsaBI (2383)

2301 GCATGGTGCCAATGAATCGTCTGACCGATGATCCGCGCTGGCTACCGCGATGAGCGAACCGGTAACCGCAATGGTGCAGCGCATGTAATCACCCGAG

452 G M V P M N R L T D D P R W L P A M S E R V T R M V Q R D R N H P S

2401 TGTGATCATCTGGTCCGCTGGGGAATGAATCAGGCCACGGCGCTAATCAGCAGCGCTGTATCGCTGGATCAAATCTGTCGATCTTCCCGCCGGTGCAG

485 V I I W S L G N E S G H G A N H D A L Y R W I K S V D P S R P V Q

BssHIII (2555) BbsI (2566)

2501 TATGAAGGCGGGAGCCGACACCACGGCCACCGATATTATTTGCCCGATGTACGCGCGCGTGGATGAAGACCGCCCTTCCCGGCTGTGCCGAAATGGT

519 Y E G G G A D T T A T D I I C P M Y A R V D E D Q P F P A V P K W

2601 CCATCAAAAAATGGCTTTCGCTACCTGGAGAGACGCGCCGCTGATCCTTTGCGAATACGCCACCGCATGGGTAACAGTCTTGGCGGTTTCGCTAAATA

552 S I K K W L S L P G E T R P L I L C E Y A H A M G N S L G G F A K Y

2701 CTGGCAGGCGTTTCGTCAGTATCCCGTTTACAGGGCGGCTTTCGCTGGGACTGGTGGATCAGTCGCTGATTAATATGATGAAAACGGCAACCCGTTGG

585 W Q A F R Q Y P R L Q G G F V W D W V D Q S L I K Y D E N G N P W

Eco47III (2892)

2801 TCGGCTTACGGCGGTGATTTTGGCGATACGCCAACGATCGCCAGTTCTGTATGAACGGTCTGGTCTTTCGCCACCGCAGCCGATCCAGCGCTGACGG

619 S A Y G G D F G D T P N D R Q F C M N G L V F A D R T P H P A L T

SacI (2997)

2901 AAGCAAAACACCAGCAGCAGTTTTTCCAGTTCCGTTTATCCGGGCAAACCATCGAAGTGACCAGCGAATACCTGTTCCGTCATAGCGATAACGAGCTCCT

652 E A K H Q Q Q F F Q F R L S G Q T I E V T S E Y L F R H S D N E L L

3001 GCACTGGATGGTGGCGCTGGATGGTAAGCCGCTGGCAAGCGGTGAAGTGCCTCTGGATGTGCTCCACAAGGTAACAGTTGATTGAACTGCCTGAACTA
685▶ H W M V A L D G K P L A S G E V P L D V A P Q G K Q L I E L P E L
3101 CCGCAGCCGGAGAGCGCCGGCAACTCTGGCTCACAGTACCGGTAGTGAACCGAACCGGACCGCATGGTCAGAAGCCGGGCACATCAGCGCCTGGCAGC
719▶ P Q P E S A G Q L W L T V R V V Q P N A T A W S E A G H I S A W Q
3201 AGTGGCGTCTGGCGGAAACCTCAGTGTGACGCTCCCGCGCGTCCCACGCCATCCGCATCTGACCACCAGCGAAATGGATTTTTGCATCGAGCTGGG
752▶ Q W R L A E N L S V T L P A A S H A I P H L T T S E M D F C I E L G
3301 TAATAAGCGTTGGCAATTTAACCCGACGTAGGCTTTCTTTCACAGATGTGGATTGGCGATAAAAAACAAGTCTGACGCCGCTGCGCGATCAGTTACC
785▶ N K R W Q F N R Q S G F L S Q M W I G D K K Q L L T P L R D Q F T
3401 CGTGCAACCGCTGGATAACGACATTGGCGTAAGTGAAGCGACCCGATTGACCCCTAACGCCTGGGTGGAACGCTGGAAGCGCGGGCCATTACCGAGCCG
819▶ R A P L D N D I G V S E A T R I D P N A W V E R W K A A G H Y Q A
3501 AAGCAGCGTTGTTGCAGTGCACGGCAGATACACTTGTGTGCGGTGCTGATTACGACCGCTCACGCGTGGCAGCATCAGGGGAAAACCTTATTATCAG
852▶ E A A L L Q C T A D T L A D A V L I T T A H A W Q H Q G K T L F I S
3601 CCGGAAAACCTACCGGATTGATGGTAGTGGTCAAATGGCGATTACCGTTGATGTTGAAGTGGCGAGCGATAACCCGATCCGGCGCGGATTGGCCTGAAC
885▶ R K T Y R I D G S G Q M A I T V D V E V A S D T P H P A R I G L N
3701 TGCCAGCTGGCGCAGGTAGCAGAGCGGGTAAACTGGCTCGGATTAGGGCCGCAAGAAAATATCCCGACCGCCTTACTGCCGCTGTTTTGACCGCTGGG
919▶ C Q L A Q V A E R V N W L G L G P Q E N Y P D R L T A A C F D R W

BbsI (3838)

Bst1107I (3819)

BspLU11I (3816) BsiWI (3827)

3801 ATCTGCCATTGTGACACATGTATACCCCGTACGTCTTCCCGAGCGAAAACGGTCTGCGCTGCGGGACGCGGAATTGAATTATGGCCACACCAAGTGGCG
952▶ D L P L S D M Y T P Y V F P S E N G L R C G T R E L N Y G P H Q W R
3901 CGGCGACTTCCAGTTCAACATCAGCCGCTACAGTCAACAGCAACTGATGGAACCCAGCCATCGCCATCTGCTGCACGCGGAAGAAGGCACATGGCTGAAT
985▶ G D F Q F N I S R Y S Q Q Q L M E T S H R H L L H A E E G T W L N

NdeI (4014)

4001 ATCGACGGTTTCCATATGGGGATTGGTGGCGACGACTCCTGGAGCCCGTCAAGTATCGGGGAATTACAGCTGAGCGCGGTGCTACCATTACCAAGTGG
1019▶ I D G F H M G I G G D D S W S P S V S A E L Q L S A G R Y H Y Q L

NheI (4136)

EcoRI (4130)

4101 TCTGGTGTCAAAAATAATAATCTAGTCGAGAATTCGCTAGCTCGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTAAAA
1052▶ V W C Q K •
4201 AAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGT

MfeI (4310)

DraI (4359)

DraI (4398)

SwaI *6623+

4301 TAACAACAACAATTGCATTCAATTTATGTTTCAGGTTTCAGGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTAGATCCATT
4401 TAAATGTTAATTAAGTACGCATGACCAAAATCCCTAACGTGAGTTTTCTTCCACTGAGCGTCAGACCCCGTAGAAAAGATCAAAGGATCTTCTTGAGA
4501 TCCTTTTTTCTGCGGTAATCTGCTGCTTGAACAACAAAAACCACCGCTACCAGCGGTGGTTTGTGGCCGATCAAGAGCTACCAACTCTTTTTCCG
4601 AAGGTAAGTGGCTTACGAGAGCGCAGATACCAATACTGTTCTTCTAGTGTAGCCGTAGTTAGGCCACCCTTCAAGAACTCTGTAGCACCAGCCTACAT
4701 ACCTCGCTCTGCTAATCCTGTTACCAGTGGCTGCTGCCAGTGGCGATAAGTCTGTCTTACCAGGTTGGACTCAAGACGATAGTTACCAGGATAAGGCGCA
4801 CGGTCGGGCTGAACGGGGGTTCTGTCACACAGCCAGCTTGGAGCGAACGACCTACCCGAACTGAGATACCTACAGCGTGTGCTATGAGAAAGCGCC
4901 ACGCTTCCGAAGGGAGAAAAGGCGGACAGGTATCCGGTAAAGCGGAGGTCGGAACAGGAGAGCGCACGAGGGAGCTTCCAGGGGAAAACGCTGTTATC
5001 TTTATAGTCTGTGCGGTTTCGCCACCTCTGACTTGAGCGTGCATTTTTGTGATGCTCGTCAGGGGGCGGAGCCTATGAAAAACGCCAGCAACGCGGC

BspLU11I (5139)

AseI (5177)

5101 CTTTTACGGTTCCTGGCCTTTTGTGCTGGCCTTTTGTCTCATGTTCTTAATTAATTTTTCAAAGTAGTTGACAATTAATCATCGGCATAGTATATCGG

SfiI (5228)

5201 CATAGTATAATACGACTCACTATAGGAGGGCCATCATGCGCAAGTTGACCAGTGTGTCCAGTGTCTCACGCCAGGGATGTGGCTGGAGCTGTTGAGT
1▶ M A K L T S A V P V L T A R D V A G A V E
5300 TCTGGACTGACAGGTTGGGGTCTCCAGAGATTTGTGGAGGATGACTTTGACGGTGTGGTCAGAGATGATGTCACCCTGTTTCATCTCAGCAGTCCAGGA
22▶ F W T D R L G F S R D F V E D D F A G V V R D D V T L F I S A V Q D
5400 CCAGTGGTGCCTGACAACCCCTGGCTTGGGTGTGGTGTGAGAGGACTGGATGAGCTGTATGCTGAGTGGAGTGGTGTCTCCACCAACTTCAGGGAT
55▶ Q V V P D N T L A W V W V R G L D E L Y A E W S E V V S T N F R D

DraIII (5589)

5500 GCCAGTGGCCTGCCATGACAGAGATTGGAGAGCAGCCCTGGGGAGAGAGTTTGCCTGAGAGACCCAGCAGGCAACTGTGTGCACTTTGTGGCAGAGG
89▶ A S G P A M T E I G E Q P W G R E F A L R D P A G N C V H F V A E

SfiI (5637)

5600 AGCAGGACTGAGGATAAGAATTGAGTTTCAGAAAAGGGGGCTGAGTGGCCCTTTTTTCAACTTAATTA
122▶ E Q D •