



PvuI (7)
SgfI (6) 1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
MfeI (82)
101 GAGAAAGTGGCGCGGGTAAACTGGAAAAGTATGTCGTGTACTGGCTCCGCCTTTTCCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) 201 GTGAACGTTCTTTTTTCGAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCCTTCACGCGCCCGCCCTACCTGAGGCC
HindIII (245)
Bsu36I (291)

301 GCCATCCACGCCGGTTGAGTCGCGTTCTGCCGCTCCCGCTGTGGTGCTCCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC
NgoMIV (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTCAACATGTTTGCCAAAGCAACCAGGAATTTCTTAGAGAAGT
AgeI (552) **BspLU11I (560)**
1▶ M F A K A T R N F L R E V

BstEII (610) 601 TGATGCTGATGGTACCTGATTGCAGTATCAAATCTGAATGACTCTGATAAGTTACAGCTTCTAAGTCTGGTGACAAAAAAGAAGAGATTCTGGTGCTGG
13▶ D A D G D L I A V S N L N D S D K L Q L L S L V T K K K R F W C W
XmnI (681)
701 CAGAGACCAAGTACCAGTTTTATCCCTCACCTTGGCGATGTACTCATAGAAGACCAATTTCCGAGTCCAGTGGTCTGGAGTCGGACTTTGTGAAT
47▶ Q R P K Y Q F L S L T L G D V L I E D Q F P S P V V V E S D F V K

BbrPI (820) 801 ACGAGGGCAAGTTTGCAAACACGTGAGTGGAACCTGGAGACTGCACTGGGGAAGTCAAGCTGAACCTGGGGGAGCAGCAGCCGCTAGAGAGCCAGTC
BstXI (819) **XcmI (894)**
80▶ Y E G K F A N H V S G T L E T A L G K V K L N L G G S S R V E S Q S
Bsu36I (912)
901 TTCATTTGGAACCTGAGGAAGCAGGAGGTGGATTTGCAGCAGCTCATCAGAGACTCTGCCGAGAGAACAATAAATCTGAGAAAACCTGTGCTCCAGCAG
113▶ S F G T L R K Q E V D L Q Q L I R D S A E R T I N L R N P V L Q Q
1001 GTGCTGGAAGGAAGGAATGAGGTCTGTGCGTTTTGACACAGAAGATCACGACGATGCAGAAGTGTGTGATCTCTGAGCATGCAGGTCGAGGAGAAGT
147▶ V L E G R N E V L C V L T Q K I T T M Q K C V I S E H M Q V E E K

1101 GTGGTGGCATCGTGGGCATCCAGACCAAGCGGTGCAGGTGTCAGCGACGGAGGATGGGAATGTCACCAAGGACTCCAACGTGGTCTGGAGATCCCAGC
180▶ C G G I V G I Q T K T V Q V S A T E D G N V T K D S N V V L E I P A
1201 TGCCACCACCATTGCCTACGGTGTCTTGTGAGTTATACGTGAAACTGGACGGCCAGTTCGAGTCTGCCTTCTCCGAGGGAAGCAAGGTGGCTTCGAGAAC
213▶ A T T I A Y G V I E L Y V K L D G Q F E F C L L R G K Q G G F E N

FspI (1374) **EcoRV (1383)**
1301 AAGAAGAGAATTGACTCTGTCTACCTGGACCCCTGGTCTTTTCGAGAGTTTGCAATCATAGACATGCCAGATGCTGGCATGGGATATCTTCCAGGATG
247▶ K K R I D S V Y L D P L V F R E F A F I D M P D A A H G I S S Q D
1401 GACCATTAAGTGTTTTAAAGCAAGCGACCTGCTCCTGGAGAGGAATTTCCATCCATTTGCGGAGCTGCCTGAGCCACAACAGACAGCTTTGAGTGACAT
280▶ G P L S V L K Q A T L L L E R N F H P F A E L P E P Q Q T A L S D I
1501 CTTCAGGCGGTCTTATTTGATGATGAACTACTCATGGTCTGGAACCAAGTGTGCGATGACCTGGTCAAGCGGCTCTCGCCACAGTGGCGGTGCTGGGG
313▶ F Q A V L F D D E L L M V L E P V C D D L V S G L S P T V A V L G

1601 GAGCTGAAGCCCCGCGCAGCAGGACCTTGTGGCCTTCTGCAAGTGGTGGGGTGCAGCTTACAGGGTGGGTGTCGGGCCCGAGGATGCAGGCGAGCA
347▶ E L K P R Q Q Q D L V A F L Q L V G C S L Q G G C P G P E D A G S
PstI (1639) **Bsp120I (1677)**
1701 AGCAGCTGTTTATGACAGCTACTTCTTGGTCAAGTGCCTCGAGAAATGCCAGATAGCGCAGCAGCTCTGCTGGGCACTTGTGCAAACCTCCAGATCAT
380▶ K Q L F M T A Y F L V S A L A E M P D S A A A L L G T C C K L Q I I

DraIII (1803) 1801 TCCCACACTGTGCCACTTGTCTGCTGTCTGATGATGGAGTATCTGATCTTGAAGACCAACCTTGACTCCCCTGAAAGATACAGAAAGGTTTGGG
413▶ P T L C H L L R A L S D D G V S D L E D P T L T P L K D T E R F G
Eco47III (1907)
1901 ATTGTGCAGCGCTTGTTCCTCAGCTGACATTAGTCTGGAGAGACTGAAGTCACTGTGAAAGCTGTCATTCTGAAGGACTCAAAGTCTTCCCCTGCT
447▶ I V Q R L F A S A D I S L E R L K S S V K A V I L K D S K V F P L

MscI (2064) 2001 TTCTTTGATAACCTGAATGGACTCTGTGCTTAGGAGAGAAACATTCATGATGTCAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGGA
480▶ L L C I T L N G L C A L G R E H S •

2101 CAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTA
HpaI (2196)

2201 ACAACAACAATTGCATTCAATTTATGTTTCAGGTTTCAGGGGAGGTGTGGAGGTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTATGGAATTCTA
MfeI (2207) **EcoRI (2292)**

2301 AAATACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATG

2401 TGCATTAGCTGTTTGCAGCCTCACCTTCTTTTCATGGAGTTTAAAGATATAGTGTATTTTCCCAAGGTTTGAAGTCTTTCATTCTTTATGTTTTAAAT **SapI (2474)**

2501 GCACTGACCTCCACATTCCCTTTTTAGTAAAAATTCAGAAAAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGA **SspI (2531)** **SwaI (2545)**

2601 TGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGC

2701 TTTAGTTCCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTC
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

2801 AGAGATGAGCTCTGCACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAG
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 **BstXI (2835)**

2901 TCCTTCTGCCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCT
74 ◀ 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 E **StuI (2970)**

3001 CCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGTCTTGTGCTCATAGAGCATGGTGTCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCTCG
41 ◀ G T K T R I A A G V H K N D E Y L M T I K E T A V E V L E L D Q **AseI (3178)**

3101 CTGAGAGATGTTGAAGTCTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGG
8 ◀ Q S I N F T K M **XmnI (3112)**

3201 ATGGCGTCTCCAGCTTATCTGACGGTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTGCGTCAATGGGGCGGAG **SacI (3235)**

3301 TTGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAAACAACTCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCGTGAGTCAAACC **SpeI (3333)**

3401 GCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCCATAGGT **SnaBI (3461)**

3501 CATGTACTGGCATAATGCCAGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCA **NdeI (3566)**

3601 GTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCAATTATTGACGTCAATGGGGGGGGTCTGT

3701 TGGGCGGTGACCCAGCGGGCCATTTACCGTAAGTTATGTAACCGCTGAGGTTAATAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGT **PacI (3752)**
PstI (3745) **SdaI (3744)** **BspLU11I (3762)**

3801 AAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGAC

3901 TATAAAGATAACGAGCGTTTTCCCTGGAAAGTCCCTCGTGCCTCTCTGTCCGACCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGGG

4001 AAGCGTGGCGTTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTGTTGCTCCAAGCTGGGTGTGTGCACGAACCCCCGTTACGCC **ApaLI (4076)**

4101 GACCGTGCGCCTTATCCGGTAACTATCGTCTTGTGTCACACCCGGTAAGACAGCACTTATGCCACTGGCAGCAGCCACTGTAACAGGATTAGCAGAG

4201 CGAGGTATGTAGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGT

4301 TACCTTCGAAAAAGAGTTGGTAGCTCTTGTCCGGCAAAACAAACCACCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACCGCAGAAAA **PacI (4492)**

4401 AAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAA **EagI (4512)**

4501 CATTTAAATCAGCGCCGCAATAAAATATCTTTATTTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAC **SwaI (4501)** **NotI (4511)**

4601 AAAACGAAACAAAACAACTAGCAAAATAGGCTGTCCCGAGTCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA