



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

101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTGATGCTGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) **HindIII (245)**
201 GTGAACGTTCTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCCTTACGCGCCCGCCCTACCTGAGGCC

301 GCCATCCACGCGGGTTGAGTCGCGTTTCTGCCGCCCTCCCGCTGTGGTGCCTCCTGAAGCTCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
NgoMI (441)
NaeI (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGTCTTTGTTTCGTTT

KasI (535) **AgeI (552)** **SphI (560)**
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGCGCCTACCTGAGATCACCGGTGAGCATGCCAGCGGGGACAGCAGCTAGAGCCTGGGTGCTGGT

Bsp120I (680)
601 TCTTGCTCTATGGGGAGCTGTAGCTGGTGGTCAGAACATCACAGCCGGATTGGAGAGCCACTTGTGCTAAGCTGTAAGGGGGCCCTAAGAAGCCGCC
13> I LeuAl aLeuTrpGl yAl aValAl aGl yGl yGl nAsnI l eThrAl aArgI l eGl yGl uP roLeuVal l eLeuSer CysLysGl yAl aP roLysLysP roP ro
701 CAGCAGCTAGAATGAAACTGAACACAGGAAGAAGCTGGAAGTCTCTCTCCCGAGGGAGGCCCTGGGACAGCGTGGCTCGAATCCTCCCA
47> Gl nGl nLeuGl uTrpLysLeuAsnThr Gl yArgThr Gl uAl aTrpLysVal l eLeuSer P roGl nGl yGl yP roTrpAspSer Val l eLeuP roA
801 ATGGTTCCCTCCTCCTCCAGCCACTGGAATTGCGATGAGGGACTTCCGGTGTGGGCAACTAACAGGCGAGGGAAGGAGGTCAAGTCCAACCTACCG
80> snGl ySer LeuLeuLeuP roAl aThr Gl y l l eVal l AspGl uGl yThr PheArgCysArgAl aThrAsnArgArgGl yLysGl uVal l LysSerAsnTyrAr
901 AGTCCGAGTCTACCAGATTCTGGGAAGCCAGAAATTGTGGATCCTGCCTCTGAAGTCTCACAGCCAGTGTCCCTAATAAGTGGGGACATGTGTCTAG
113> gVal l ArgVal l TyrGl n l l eP roGl yLysP roGl u l l eVal l AspP roAl aSer Gl uLeuThrAl aSer Val l P roAsnLysVal l Gl yThr CysVal l Ser Gl u
SdaI (1009)
1001 GGAAGCTACCTCGAGGACCCCTTAGCTGGCCTTAGATGGGAACTTCTGATCCCGATGGCAAAGAAACACTCGTGAAGGAAGAGACCAGGAGACACC
147> Gl ySer TyrP roAl aGl yThr LeuSer TrpHi sLeuAspGl yLysLeuLeu l l eP roAspGl yLysGl uThr LeuVal l LysGl uGl uThr ArgArgHi sP
1101 CTGAGACGGGACTCTTTACTGCGGTGAGAGTGCAGAGTGCAGTGCATCCCAACCAAGGAGGAACCCATCCTACCTTCTCCTGCAGTTTCAGCCTGGGCTTCC
180> r oGl uThr Gl yLeuPheThr LeuArgSer Gl uLeuThr Val l l eP roThr Gl nGl yGl yThr Hi sP roThr PheSer CysSer PheSer LeuGl yLeuP r
1201 CCGGCGCAGACCCCTGAACACAGCCCCATCCAACCTCCGAGTCAGGGAGCCTGGGCTCCAGAGGGCATTAGCTGTTGGTTGAGCCTGAAGTGGGAATA
213> oArgArgArgP roLeuAsnThrAl aP ro l l eGl nLeuArgVal l ArgGl uP roGl yP roP roGl uGl y l l eGl nLeuLeuVal l Gl uP roGl uGl yGl y l l e
SandI (1015)
1301 GTCGCTCCTGGTGGGACTGTGACCTTGACCTGTGCCATCTCTGCCAGCCCCCTCCTCAGGTCCACTGGATAAAGGATGGTGCACCCCTGCCCTGGCTC
247> Val l Al aP roGl yGl yThr Val l Thr LeuThr CysAl a l l eSerAl aGl nP roP roP roGl nVal l Hi sTrp l l eLysAspGl yAl aP roLeuP roLeuAl aP
MscI (1460)
Ball (1460)
1401 CCAGCCCTGTGCTCCTCCTGAGGTGGGGCAGGAGTGGGGCACCTATAGCTGCTGGCCACCCACCTAGCCACGGACCTCAGGAAAGCCCTCC
280> r oSer P roVal l LeuLeuLeuP roGl uVal l Gl yHi sGl uAspGl uGl yThr TyrSer CysVal l Al aThr Hi sP roSer Hi sGl yP roGl nGl uSer P roP r
NheI (1575) **BamHI (1592)**
1501 TGTCAGCATCAGGGTACAGAAACCGGCGATGAGGGGCCAGCTGAAGGCTCTGTGGTGTAGTCTGGGCTGGGTACGCTAGCCCTGGCCTGGGGATCCTG
313> oVal l Ser l l eArgVal l Thr Gl uThr Gl yAspGl uGl yP roAl aGl uGl ySer Val l Gl yGl uSer Gl yLeuGl yThr LeuAl aLeuAl aLeuGl y l l eLeu
StuI (1602)
Eco147I (1602)
1601 GGAGGCTGGGAGTAGTCCCTGCTCGTGGGCTATCCTGTGGCGAAAACGACAACCCAGGCGTGGAGAGGAAGGCCCGGAAAGCCAGGAGGATG
347> Gl yGl yLeuGl yVal l Val l Al aLeuLeuVal l Gl yAl a l l eLeuTrpArgLysArgGl nP roArgArgGl uGl uArgLysAl aP roGl uSer Gl nGl uAspG
1701 AGGAGGAACGTGCAGAGTGAATCAGTCAGAGGAAGCGGAGATGCCAGAGAATGGTGGCGGGGACCGTAAGAGCACCCAGATCGAGCCTGTGTGATGCC
380> l uGl uGl uArgAl aGl uLeuAsnGl nSer Gl uGl uAl aGl uMe tP roGl uAsnGl yAl aGl yGl yP ro•••
MscI (1816)
NheI (1810)
EcoRI (1804) **Ball (1816)**
1801 CCTAGAATTGCTAGCTGCCAGACATGATAAGATACATTGATGAGTTTGACAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATT

HpaI (1948) **MfeI (1959)**
1901 TGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAAACAGTTAAACAACAACAATTGCATTCTTTTATGTTTCAGGTTTCAGGGGAGGTGT

EcoRI (2044)
2001 GGGAGTTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCTAAATAACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTACTTGA

2101 ATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTTCATGGAGTTTAAAGATAT

SspI (2283) **SwaI (2297)**
2201 AGTGATTTTTCCAAGGTTTGAAGTCTTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTGTAGTAAATATTCAGAAATAATT

2301 TAAATACATCATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGG

2401 GAACAAAGGAACCTTAAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTT

141<•••AsnArgThr TyrLysLeuP rol l eLeuGl uGl u l l eThr Thr Ly

2501 TGACCAGCTTGCCATTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCACCCTGATGGA
 125 sVal LeuLysGlyAsnMetGluLeuValPheCysAspProAlaTyrAspSerIleLeuGluArgCysMetGlyCysProSerValValArgIleSer
 2601 TCTGTCCACCTCATCAGAGTAGGGTGCCTGACAGCCACAATGGTGTCAAAGTCCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCA
 92 ArgAspValGluAspSerTyrProHisArgValAlaValIleThrAspPheAspLysGlnGlyAsnSerValAlaSerGlyIleAlaIleAlaGluAlaC
 StuI (2722) BstXI (2587)
 Eco147I (2722)
 2701 CAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAAGTCTTGGTCTGATGGCCGCCCGACATGGTGCTTGTGTCTC
 58 ysVal ThrValArgGlyIleTyrAlaGluIleHisValAlaSerIleIleGluGlyThrLysThrArgIleAlaAlaGlyValHisHisLysAsnAspGly
 BspHI (2872)
 XmnI (2864)
 2801 CATAGAGCATGGTATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCTGCTGAGAGATGTTGAAGTCTTCATGATGGCCCTCTATAGTGAGTCGT
 25 uTyrLeuMetThrIleLysGluThrAlaValGluValLeuGluLeuAspGlnGlnSerIleAsnPheThrLysMet
 VspI (2930) SacI (2987)
 AseI (2930)
 2901 ATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCACAAACGAGCTCTGCTTAT
 SpeI (3085)
 3001 ATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAAGTCCCGTTGATTTACTAGTCAAAACAA
 3100 ACTCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTA
 SnaBI (3213)
 Eco105I (3213)
 3200 ATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCACTGTACTGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGT
 NdeI (3318)
 3300 CAATAGGGGGCTACTTGGCATATGATACACTTGTACTGTACTGCCAAGTGGCAGTTTACCCTAAATACTCCACCATTGACGTCAATGAAAAGTCCCTAT
 SdaI (3496)
 3400 TGGCGTACTATGGGAACATACGTCAATTATTGACGTCAATGGCGGGGTCGTTGGCGGTCAGCCAGCGGGCCATTTACCCTAAGTTATGTAACGCC T
 PacI (3504) BspLUIII (3514)
 3500 G C A G G T T A A T T A A G A A C A T G T G A G C A A A A G G C C A G C A A A A G G C C A G G A A C C G T A A A A A G G C C G T T G C T G G C G T T T T T C C A T A G G C T C C G C C C C C T
 3598 G A C G A G C A T C A C A A A A T C G A C G C T C A A G T C A G A G G T G G C G A A A C C G A C A G G A C T A T A A A G A T A C C A G G C G T T T C C C C T G G A A G C T C C C T C G T G C G C T
 3698 C T C C T G T T C C G A C C C T G C C G T T A C C G G A T A C T G T C C G C T T T C T C C C T T C G G G A A G C G T G G C G C T T T C T C A T A G C T C A C G C T G T A G G T A T C T C A G T T C
 ApaLI (3828)
 3798 G G T G T A G G T C G T T C G C T C C A A G C T G G G C T G T G T G C A C G A A C C C C C G T T C A G C C C G A C C G C T G C G C T T A T C C G G T A A C T A T C G T C T T G A G T C C A A C C C G
 3898 G T A A G A C A C G A C T T A T C G C C A C T G G C A G C A G C C A C T G G T A A C A G G A T T A G C A G A G C G A G G T A T G T A G G C G G T G C T A C A G A G T T C T T G A A G T G G T G G C C T A
 3998 A C T A C G G C T A C A C T A G A A G A A C A G T A T T T G G T A T C T G C G C T C T G C T G A A G C C A G T T A C C T T C G G A A A A A G A G T T G G T A G C T C T T G A T C C G G C A A A C A A A C
 4098 C A C C G C T G G T A G C G G T G G T T T T T G T T T G C A A G C A G C A G A T T A C G C G C A G A A A A A A G A T C T C A A G A A G A T C C T T T G A T C T T T T C A C G G G T C T G A C
 EagI (4264)
 PacI (4244) SwaI (4253) NotI (4263)
 4198 G C T C A G T G G A A C G A A A A C T C A C G T T A A G G G A T T T T G G T C A T G G C T A G T T A A T T A A C A T T T A A A T C A G C G C C G C A A T A A A A T A T C T T T A T T T T C A T T A C A
 4298 T C T G T G T T G G T T T T T G T G T G A A T C G T A A C T A A C A T A C G C T C C A T C A A A C A A A A C G A A C A A A C A A A C T A G C A A A A T A G G C T G T C C C C A G T G C A
 4398 A G T G C A G G T G C C A G A A C A T T T C T A T C G A A