



PvuI (7)
SgfI (6)
 1 GGATCTGCATCGCTCCGGTGCCCGTCAGTGGCAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTCGGCAATTGAACGGGTGCCTA
 101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) **HindIII (245)**
 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTACACGCCGCCGCCCTACCTGAGGCC
 301 GCCATCCACGCGGTTGAGTGCAGTCTGCCGCTCCCGCCTGTGGTGCCTCCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
NgoMI (441)
NaeI (441)
 401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCCTGACCCTGCTTGTCTCAACTCTACGTCTTTGTTTCGTTT

KasI (535) **AgeI (552)** **NcoI (560)**
BstEII (555)
 501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGCCCTACTCTGAGATCACCGGTACCCATGGCAGCCGGAACAGCAGTTGGAGCCTGGGTGCTGGT
 601 CCTCAGTCTGTGGGGGAGTAGTAGGTGCTCAAACATCACAGCCCGGATTGGCAGCCACTGGTGTGAAGTGAAGGGGGCCCCAAGAAACCACCC
 131▶ I LeuSer LeuTrpGI yAl aVal Val GI yAl aGI nAsnI l eThrAl aArgI l eGI yGI uProLeuVal LeuLysCysLysGI yAl aProLysLysProPro

HindIII (737)
 701 CAGCGCTGGAATGGAACTGAACACAGGCCGACAGAAGCTTGAAGGTCCTGTCTCCACAGGGAGGAGGCCCTGGACAGTGTGGCTCGTGTCTTC
 47▶ GI nArgLeuGI uTrpLysLeuAsnThr GI yArgThr GI uAl aTrpLysVal l euSer ProGI nGI yGI yGI yProTrpAspSer Val Al aArgVal l euP

BamHI (830) **Tth111I (885)**
 801 CCAACGGCTCCCTCTTCCCTTCCGGCTGTCCGGATCCAGGATGAGGGGATTTTCCGGTGCCAGGCAATGAACAGGAATGGAAAGGAGACCAAGTCCAAC
 80▶ r oAsnGI ySer LeuPheLeuProAl aVal GI yI l eGI nAspGI uGI yI l ePheArgCysGI nAl aMetAsnArgAsnGI yLysGI uThr LysSerAsnTy

SdaI (1012) **BspLU11I (988)**
 901 CCGAGTCCGTGTCTACCAGATTCCTGGGAAGCCAGAAATTGTAGATTCTGCCTCTGAACTCACGGCTGGTGTTCCTCAATAAGGTGGGGACATGTGTGTCA
 113▶ r ArgVal l ArgVal l TyrGI nI l eProGI yLysProGI ul l eVal AspSer Al aSer GI uLeuThrAl aGI yVal l ProAsnLysVal l GI yThr CysVal l Ser

XmaI (1151) **SmaI (1151)**
BstEII (1140)
 1101 ACCCTGAGACAGGGCTCTTACACTGCAGTCGGAGCTAATGGTGACCCAGCCCGGGAGGAGATCCCCGTCCACCTTCTCCTGTAGCTTCAGCCAGG
 180▶ i sProGI uThr GI yLeuPheThr LeuGI nSer GI uLeuMetVal l Thr ProAl aArgGI yGI yAspProArgProThr PheSer CysSer PheSer ProGI

FspI (1220)
 1201 CCTTCCCGACACCGGGCTTGGCAGCCCCATCCAGCCCCGTGTCTGGGAGCCTGTGCCTCTGGAGGAGTCCAATTGGTGGTGGAGCCAGAAAGT
 213▶ yLeuProArgHisArgAl aLeuArgThr Al aProI l eGI nProArgVal l TrpGI uProVal l ProLeuGI uGI uVal l GI nLeuVal l Val GI uProGI uGI y

MscI (1466)
 1401 TTCCCCCAGCCCTGTGTGATCCTCCCTGAGATAGGGCTCAGGACCAGGGAACCTACAGCTGTGTGGCCACCCATTCCAGCCACGGGCCCCAGGAAAG
 280▶ euProProSer ProVal l LeuI l eLeuProGI ul l eGI yProGI nAspGI nGI yThr TyrSer CysVal l Al aThr HisSer Ser HisGI yProGI nGI uSe

BamHI (1598)
 1501 CCGTGTGTGAGCATCAGCATCATCGAACAGGCGAGGAGGGCCAACTGCAGGCTCTGTGGGAGGATCAGGGCTGGGAACTCTAGCCCTGGCCCTGGGG
 313▶ r ArgAl aVal l Ser l l eSer l l eI l eGI uProGI yGI uGI uGI yProThrAl aGI ySer Val l GI yGI ySer GI yLeuGI yThr LeuAl aLeuAl aLeuGI y

ScaI (1759)
 1601 ATCTCTGGGAGGCTGGGGACAGCCGCTTGTCTATTGGGGTCTCTTGTGGCAAAGGCGGCAACGCCGAGGAGAGGAGGAAAGGCCCGGAAAAACAGG
 347▶ I l eLeuGI yGI yLeuGI yThr Al aAl aLeuLeuI l eGI yVal l l eLeuTrpGI nArgArgGI nArgArgGI yGI uGI uArgLysAl aProGI uAsnGI nG

MscI (1819) **BalI (1819)**
NheI (1813)
 1701 AGGAAGAGGAGGAGCGTGCAGAAGTGAATCAGTCGGAGGAACCTGAGGCAGGCGAGAGTAGTACTGGAGGGCCTTGGGGGCCACAGACAGATCCCATC
 380▶ I uGI uGI uGI uArgAl aGI uLeuAsnGI nSer GI uGI uProGI uAl aGI yGI uSer Ser Thr GI yGI yPro●●●

1801 CATCAGCTCCCTTGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAA

HpaI (1951)
 1901 ATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAACAACAACAATTGCATTCATTTTATGTTTCAGGTTTCAGGGGGAGG

EcoRI (2047)
 2001 TGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCATAAATACAGCATAGCAAACTTTAACCTCCAATCAAGCCTCTACT
 2101 TGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTTATGGAGTTTAAAG

SspI (2286)
 2201 TATAGTGTATTTCCCAAGGTTGAACTAGCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTATGTAATAATTCAGAAATA

SwaI (2300)
 2301 ATTTAAATACATCATTGCAATGAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTT

2401 **AGGGAACAAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTACTTGAGGGGGATGAGTTCCTCAATGGTGG**
141 •••AsnArgThr TyrLysLeuP roI l eLeuGl uGl uI l eThr Th
SacI (2561)

2501 **TTTTGACCAGCTTGCCATTCATCTCAATGAGCACAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGCACATGCCACAGGGGCTGACCACCCTGAT**
126 r LysVal LeuLysGl yAsnMetGl uI l eLeuVal PheCysAspProAl aTyrAspSer I l eLeuGl uArgCysMetGl yCysProSer Val Val ArgI l e

2601 **GGATCTGCCACCTCATCAGAGTAGGGTGCCTGACAGCCACAATGGTGTCAAAGTCCTCTGCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCA**
93 SerArgAspVal Gl uAspSer TyrP roHi sArgVal Al aVal I l eThrAspPheAspLysGl nGl yAsnSer Val Al aSer Gl yI l eAl aI l eAl aGl uA

2701 **GCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTGATGGCCGCCGACATGGTGTGTTGT**
59 l aCysVal Thr Val ArgGl yI l eTyrAl aGl uI l eHi sVal Al aSer I l eI l eGl uGl yThr LysThrArgI l eAl aAl aGl yVal Hi sHi sLysAsnAs

BspHI (2875)
XmnI (2867)

2801 **CCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGATGGCCCTCCTATAGTGAGT**
26 pGl uTyrLeuMet Thr I l eLysGl uThr Al aVal Gl uVal LeuGl uLeuAspGl nGl nSer I l eAsnPheThr LysMet

VspI (2933)
AseI (2933)
SacI (2990)

2901 **CGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCACATAACGAGCTCTGCT**

SpeI (3088)

3001 **TATATAGACCTCCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGCGGAGTTGTTACGACATTTTGAAAGTCCC GTTGATTTACTAGTCAAAA**

3100 **CAAACCTCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTA CTGCCAAAACCGCATCATCATG**

SnaBI (3216)
Eco105I (3216)

3200 **GTAATAGCGATGACTAATACGTAGATGTA CTGCAAGTAGGAAAGTCCATAAGGTCA TGTA CTGGGCATAATGCCAGGCGGGCATTACCCTGATTGA**

NdeI (3321)

3300 **CGTCAATAGGGGGCTACTTGGCATATGATACTTGTACTGCAAGTGGGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCC**

3400 **TATTGGCGTTACTATGGGAACATACGTCAATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGT CAGCCAGGCGGGCATTACCCTAAGTTATGTAACG**

SdaI (3499) PacI (3507) BspLU11I (3517)

3500 **CCTG CAG GTT AA TTAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGCCGCTTGTGGCGTTTTTCCATAGGCTCCGCCCC**

3598 **CCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAGATACCAGGCGTTTCCCCTGGAAGCTCCCTCGTGC**

3698 **GCTCTCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTCGGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAG**

ApaLI (3831)

3798 **TTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTT CAGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAAC**

3898 **CCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTG GTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGC**

3998 **CTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACA**

4098 **AACCACCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTCTACGGGTCT**

EagI (4267)
PacI (4247) SwaI (4256) NotI (4266)

4198 **GACGCTCAGTGGAACGAAAACTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCGCAATAAAATATCTTTATTTTCATT**

4298 **ACATCTGTGTGTTGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCAGT**

4398 **GCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA**