



PvuI (8)
SgfI (7)
GGATCTGCGATCGCTCCGGTGCCCGTCAGTGGGCAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTCGGCAATTGAACCGGTGCCTA
GAGAAGGTGGCGGGGTAAACTGGAAAAGTGATGTCGTGACTGGCTCCGCCTTTTTCCGAGGGTGGGGGAGAACCGTATATAAGTGCAGTAGTCGCC

Psp1406I (204) **HindIII (246)** **Bsu36I (292)**
GTGAACGTTCTTTTTTCGCAACGGGTTTCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCCTTCACGCGCCCGCCGACCTGAGGCC
GCCATCCACGCGGTTGAGTCCGGTTCTGCCGCTCCCGCTGTGGTGCCTCCTGAAGTGCCTCGCCGCTCTAGGTAAGTTTAAAGCTCAGGTCCGAGACC

NaeI (442)
GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCCTGACCCTGCTTGCTCAACTCTACGTCTTTGTTTCGTTT

KasI (536) **AgeI (553)** **BspHI (569)**
TCTGTTCTGCGCGTTACAGATCCAAGCTGTGACCGCGCTACCTGAGATCACCGGTAGGAGGGCCATCATGATTTATCCCTGGGTCAGGAAGTGGG
▶MetI leTyrSerProGlySerGlySerGly

HindIII (616)
GCTGCTGGTGAGAGAAAGCTTTGTCTCCTCTCTGCTCCTCATCGGTGCCTTGGGCTGTGCTATCTGTACGGGAACCTGTGGACGACATCTGCATA
▶AlaAlaGlyGluArgLysLeuCysLeuLeuSerLeuLeuLeuI leGlyAlaLeuGlyCysAlaI leCysHisGlyAsnProValAspAspI leCysI le

BsrBI (741)
GCGAAGCCCCGAGACATCCCCGTGAATCCCTTGTGCATTTACCGTCCCTCGGGAAGAAGGCCACCGAGGAGGATGGCTCAGAGCAGAAGGTTCCAGAAG
▶AlaLysProArgAspI leProValAsnProLeuCysI leTyrArgSerProGlyLysLysAlaThrGluGluAspGlySerGluGlnLysValProGluA

NruI (838)
CCACCAACCGCGGGTCTGGAACTGTCCAAGGCAATTCCGATTTGCCACTAACTTCTACCAGCACCTGGCAGACTCCAAGAATGACAACGACAACAT
▶IaThrAsnArgArgValTrpGluLeuSerLysAlaAsnSerArgPheAlaThrAsnPheTyrGlnHisLeuAlaAspSerLysAsnAspAsnAspAsnI I
TTTCTGTACCCCTTGAGCATCTCCACTGCTTTTGTCTATGACCAAGCTGGGTGCCTGTAACGACACTCTCAAGCAGCTGATGAGGTTTAAAAATTTGA
▶ePheLeuSerProLeuSerI leSerThrAlaPheAlaMetThrLysLeuGlyAlaCysAsnAspThrLeuLysGlnLeuMetGluValPheLysPheAs
TACCATCTCCGAGAAGACATCCGACCAGATCCACTTCTTTGCCAAACTGAACTGCCACTCTATCGAAAAGCCAACAAGTCCCTGACTTGGTATC
▶pThrI leSerGluLysThrSerAspGlnI leHisPhePhePheAlaLysLeuAsnCysArgLeuTyrArgLysAlaAsnLysSerSerAspLeuValSe
AGCCAACCGCCTTTTTGAGACAAATCCCTCACCTTCAACGAGAGCTATCAAGACGTTAGTGAGGTTGTCTATGGAGCCAAGCTCCAGCCCTTGGACTT
▶rAlaAsnArgLeuPheGlyAspLysSerLeuThrPheAsnGluSerTyrGlnAspValSerGluValValTyrGlyAlaLysLeuGlnProLeuAspPh

BspEI (1206) **KasI (1285)**
CAAGGAGAATCCGGAGCAATCCAGAGTGACATCAACAACCTGGGTAGCTAATAAGACTGAAGGCCGATCAAAGATGTCATCCCACAGGGCCGCTAATAAC
▶eLysGluAsnProGI uGlnSerArgValThrI leAsnAsnTrpValAlaAsnLysThrGluGlyArgI leLysAspValI leProGlnGlyAlaI leAsn

HpaI (1318)
GAGCTCACGGCCCTGGTGTGTTAAACACCTTACTTCAAGGGCCTGTGGAAGTCAAAGTTCAGCCCTGAGAACAAGGAAGGAACCGTTCTATAAG
▶GluLeuThrAlaLeuValI leuValAsnThrI leTyrPheLysGlyLeuTrpLysSerLysPheSerProGluAsnThrArgLysGI uProPheTyrLys
GTCCGATGGCAGTCATGCCAGTGCCTATGATGTACCAGGAAAGCAAATTCAAATACCGCGCGTGGCAGAGGGCACCCAGGTGCTAGAGTGCCTTC
▶ValAspGlyGlnSerCysProValProMetMetTyrGI nGluGlyLysPheLysTyrArgArgValAlaGluGlyThrGlnValLeuGluLeuProPhe

NcoI (1511) **MscI (1547)** **PstI (1582)**
AAGGGGGATGACATACCATGGTGTCTCATCTGCCAAGCCTGAGAAGAGCCTGGCCAAAGTGGAGCAGGAGCTACCCCCAGAGTGTGCAGGAGTG
▶LysG lyAspAspI leThrMetValLeuI leLeuProLysProGI uLysSerLeuAlaLysValGluGI nGluLeuThrProGluLeuLeuGI nGluTr
GCTGGATGAGCTGTCAGAGACGATGCTTGTGGTCCACATGCCCGCTTCCGACCGAGGATGGCTTCAGTCTGAAGGAGCAGCTGCAAGACATGGCCCT
▶pLeuAspGluLeuSerGluThrMetLeuValValHisMetProArgPheArgThrGluAspGlyPheSerLeuLysGluGlnLeuGlnAspMetGlyLe
CATTGATCTCTCAGCCCTGAAAAGTCCCACTCCAGGGATCGTTGCTGGAGGACGGACACCTCTATGTCTCCGACGATTCCACAAAGCATTTC
▶ul leAspLeuPheSerProG luLysSerGlnLeuProGlyI leValAlaGlyGlyArgAspAspLeuTyrVa lSerAspAlaPheHisLysAlaPheL

ScaI (1825) **BstEII (1869)**
TTGAGGTAAATGAGGAAGGCAGTGAAGCAGCAGCGAGTACTTCTGCTGATTAAGTGGCCGGTCACTGAACCCCAATAGGGTGACCTCAAGGCCAAC
▶euGluValAsnGluGluGlySerGluAlaAlaAlaSerThrSerValVa lI leThrGlyArgSerLeuAsnProAsnArgValThrPheLysAlaAsn
AGGCCCTTCTGGTCTTATAAGGGAAGTGCCTGAACTATTATTCATGGGAGAGTGGCTAATCCTTGTGGAACATAAATATCTTTGCACCT
▶ArgProPheLeuValLeuI leArgGluValAlaLeuAsnThrI leI lePheMetGlyArgValAlaAsnProCysValAsn•••

NheI (2000)
TTTCTACTTTGGCTAGCTCGACATGATAAGATACATTGATGAGTTTGGACAAACCACAAGTGAATGCAGTGAATAAATGCTTTATTTGTGAAATTTG
TGATGCTATTGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAACAAGTTAAACAACAATTCATTCATT
HpaI (2163)

Swal (2261) **BspLU11I (2280)**
TTATGTTTCAGGTTACAGGGGAGGTGTGGGAGGTTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTAGATCATTTAAATGTTAATTAAGAACATGTGA

GCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAATAAATCGACGCT
CAAGTCAGAGGTGGCAAAACCCGACAGGACTATAAAGATACCAGGCGTTCCCCCTGGAAGCTCCCTCGTGCCTCTCTGTTCCGACCTGCCGCTTAC
CGGATACCTGTCCGCTTTCTCCCTTCGGAAGCGTGGCGTTTTCTCAATGCTCAGCTGTAGGTATCTCAGTTCGGTGTAGGTGTTCCGCTCCAAGCTG

ApaLI (2594)
GGCTGTGTGCACGAACCCCGTTACGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGG
CAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGTACAGATTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGT
ATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAAACAACCCAGGCTGGTAGCGGTGTTTTTTT
GTTTGAAGCAGCAGATTACCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACTCACGTT

PacI (3010) **BsrGI (3020)**
AAGGGATTTTGGTCTAGTGAATTAAGCTGTACACTGTGGAATGTGTCTCAGTTAGGCTGTGAAAAGTCCCAGGCTCCCAGCAGGCAGAAAGTAT
GCAAAGCATGCATCTCAATTAGTCAGCAACAGGTGTGAAAAGTCCCAGGCTCCCAGCAGGCAGAAAGTATGCAAAGCATGCATCTCAATTAGTCAGCA

NcoI (3256)

ACCATAGTCCCGCCCTAACTCCGCCATCCCGCCCTAACTCCGCCAGTTCGGCCATTCTCCGCCCATGGCTGACTAATTTTTTTTATTTATGCAG

AvrII (3349)

StuI (3346)

SmaI (3370)

AGGCCGAGGCCCTCTGCCTCTGAGCTATTCCAGAAGTAGTGAGGAGGCTTTTTTGGAGGCCCTAGGCTTTTGCAAAAAGCTCCCGGGAGCTTGTATATC

XmnI (3480)

BspHI (3476)

BbrPI (3407) AseI (3419)

CATTTTCGGATCTGATcagCACGTGTTGACAATTAATCATCGGCATAGTATATCGGCATAGTATAATACGACAAGGTGAGGAACATAAATCATGAAGACCT

TCAACATCTCTCAGCAGGATCTGGAGCTGGTGGAGGTCGCCACTGAGAAGATCACCATGCTCTATGAGGACAACAAGCACCATGTCGGGGCGGCCATCAG

heAsnI leSerGlnGlnAspLeuGluLeuValGluValAlaThrGluLysI leThrMetLeuTyrGluAspAsnLysHisHisValGlyAlaAlaI leAr

MetLysThrP

StuI (3626)

GACCAAGACTGGGGAGATCATCTCTGCTGTCCACATTGAGGCCTACATTGGCAGGGTCACTGTCTGTGCTGAAGCCATTGCCATTGGGTCTGCTGTGAGC

gThrLysThrGlyGluI leI leSerAlaValHisI leGluAlaTyrI leGlyArgValThrValCysAlaGluAlaI leAlaI leGlySerAlaValSer

BstXI (3755)

AACGGGCAGAAGGACTTTGACACCATTGTGGCTGTCAGGCACCCCTACTCTGATGAGGTGGACAGATCCATCAGGGTGGTCAGCCCTGTGGCATGTGCA

AsnGlyGlnLysAspPheAspThrI leValAlaValArgHisProTyrSerAspGluValAspArgSerI leArgValValSerProCysGlyMetCysA

GAGAGCTCATCTCTGACTATGCTCCTGACTGCTTTGTGCTCATTGAGATGAATGGCAAGCTGGTCAAAACCACCATTGAGGAACATCCCCCTCAAGTA

rgGluLeuI leSerAspTyrAlaProAspCysPheValLeuI leGluMetAsnGlyLysLeuValLysThrThrI leGluGluLeuI leProLeuLysTy

EcoRI (3905)

CACCAGAACTAAACCTGAATTCGCTAGAGGGCCCTATTCTATAGTGTACCTAAATGCTAGAGCTCGCTGATCAGCCTCGACTGTGCCTTCTAGTTGCC

rThrArgAsn•••

AGCCATCTGTTGTTTGGCCCTCCCGTGCCTTCTTGACCCTGGAAGGTGCCACTCCCCTGCTCTTCTCCTAATAAAATGAGGAAATTCATCGCATTG

FspI (4169)

XhoI (4186)

TCTGACTAGTGTTCATTCTATTCTGGGGGTGGGGTGGGGCAGGACAGCAAGGGGAGGATTGGGAAGACAATAGCAGGCATGCCAGGGCCCAATTGCT

NotI (4191)

BsrBI (4189)

CGAGCGGCCCAATAAAATATCTTTATTTTCATTACATCTGTGTGTTGTTTTTGTGTGAATCGTAACATAACGCTCTCCATCAAAACAAAACGAA

ACAAAACAAACTAGCAAAATAGGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA