

SpeI (14)

1 CCTGCAGGGCCACTAGTTCTCAGGCTCACATTTCCACCACCCACCTCTGAGCCAGCCCTCCCTAGCATCACCACCTCCATCCCATTTCTCAGCCAAGA
101 GCCAGGAATCTTGATTCCAGATCCCACGCTTCCCTGCCTCCCTCAGGTGAGCCAGACCCCCAGGCACCCCGCTGGCCCTGAAGGAGCAGGTGATGGT
201 GCTGTCTTCGCCAGCAGCTGTGGGAGCAGCGGGTGGGGCAGGATGGAGGGTGGGTGGGGTGGGTGGAGCCAGGGCCACTTCCTTTCCCTTGGGGC
301 CCTGTCTTCCAGTCTTGCCCAAGCCTGGGAGGTGGTGGAGTGACCTGGCCCAAGTGCTGCTCCTTATCAGCCGAGCCGtaagagggtgagacttg
401 gtggggtaggggctcagtgaggctgggaatgtgctgtggcttgaaagactctgacaggttatgatgggaagagattgggagccattgggctgcacag
501 ggtcaggaagggcaggaggggctggtcactgctggaatctaaagctgctgaggctggaggagcctcaggatggggctgatggggagctgccagcatct
601 gttcctctgtcattttctgataacagtaaaagccagcatggaaaaaacggttaaacccaggttgggcctggccgttggcagggaaagtgggcagagggggag

NcoI (794)

701 gcccggccaggctcctccggcaactcccgcgtgttctgcttctccggctgccacactgcagGTCCAGCTCTTGCTCTGCCTGTTTGCCTGACCATGGGG
801 GGTTCATCATCATCATCATCATGGTATGGCTAGCATGACTGGTGGACAGCAAATGGGTCGGGATCTGTACGACGATGACGATAAGGTACCTAAGGATC
3> GlySerHisHisHisHisHisHisGlyMetAlaSerMetThrGlyGlyGlnGlnMetGlyArgAspLeuTyrAspAspAspAspLysValProLysAspG
901 AGCTTGGAGTTGATCCCGTCTTTACACCGTCTGACTGGGAAAACCTGGCGTTACCCAACTTAATCGCCTTGCAGCACATCCCCCTTTCGCCAGCTG
36> InLeuGlyValAspProValValLeuGlnArgArgAspTrpGluAsnProGlyValThrGlnLeuAsnArgLeuAlaAlaHisProProPheAlaSerTr
1001 GCGTAATAGCGAAGAGGCCCGCACCGATCGCCCTTCCCAACAGTTGCGCAGCCTGAATGGCGAATGGCGCTTTCGCTGGTTCCGGCACCAGAGCGGTG
69> pArgAsnSerGluGluAlaArgThrAspArgProSerGlnGlnLeuArgSerLeuAsnGlyGluTrpArgPheAlaTrpPheProAlaProGluAlaVal
1101 CCGGAAAGCTGGCTGGAGTCCGATCTTCTCAGGCGGATACCTGCTGCTCCCTCAAACCTGGCAGATGACGGTTACGATGCGCCATCTACACCAACG
103> ProGluSerTrpLeuGluCysAspLeuProGluAlaAspThrValValProSerAsnTrpGlnMetHisGlyTyrAspAlaProIeTyrThrAsnV
1201 TAACCTATCCCATACGGTCAATCCGCGCTTGTTCACCGGAGAATCCGACGGGTTGTACTCGCTCACATTTAATGTTGATGAAAGCTGGCTACAGGA
136> alThrTyrProIeThrValAsnProProPheValProThrGluAsnProThrGlyCysTyrSerLeuThrPheAsnValAspGluSerTrpLeuGlnGl
1301 AGGCCAGACGGAATATTTTTGATGGCGTAACTCGCGCTTTCATCTGTGGTGCAACGGGGCTGGGTTCGGTACGGCCAGGACAGTCTGTTGCCCTCT
169> uGlyGlnThrArgIleIePheAspGlyValAsnSerAlaPheHisLeuTyrCysAsnGlyArgTrpValGlyTyrGlyGlnAspSerArgLeuProSer
1401 GAATTTGACCTGAGCGCATTTTACGCCCGGAGAAAACCCGCTCGCGGTGATGGTCTGGAGTGACGGCAGTTATCTGGAAGATCAGGATATGT
203> GluPheAspLeuSerAlaPheLeuArgAlaGlyGluAsnArgLeuAlaValMetValLeuArgTrpSerAspGlySerTyrLeuGluAspGlnAspMetT
1501 GCGGATGAGCGGCATTTTCCGTGACGCTCTCGTTGCTGCATAAACCGACTACACAAATCAGCGATTTCCATGTTGCCACTCGCTTAAATGATGATTTAG
236> rpArgMetSerGlyIlePheArgAspValSerLeuLeuHisLysProThrThrGlnIleSerAspPheHisValAlaThrArgPheAsnAspAspPheSe
1601 CCGCGCTGACTGGAGCTGAAGTTCAGATGTGCGCGAGTTCGCTGACTACCTACGGGTAACAGTTTCTTTATGGCAGGGTAAACCGCAGGTCGCCAGC
269> rArgAlaValLeuGluAlaGlnMetCysGlyGluLeuArgAspTyrLeuArgValThrValSerLeuTyrValSerLeuTyrGlnGlyGluAlaSer
1701 GGCACCGCGCTTTCGGCGGTGAAATTCATCGATGAGCGTGGTGGTTATGCCGATCGCGTACACTACGCTGAAACGTCGAAAACCCGAAACTGTGGAGCG
303> GlyThrAlaProPheGlyGlyGluIleIeAspGluArgGlyGlyTyrAlaAspArgValThrLeuArgLeuAsnValGluAsnProLysLeuTrpSerA
1801 CCGAAATCCCGAATCTCTATCGTGGGTGAACTGCACACCGCCGACGGCAGCGTATTGAAGCAGAAGCCTGGCATGTCGGTTCCCGCAGGTTGCC
336> laGluIleProAsnLeuTyrArgAlaValValGluLeuHisThrAlaAspGlyThrLeuIleGluAlaGluAlaCysAspValGlyPheArgGluValAr
1901 GATTGAAAATGCTGCTGCTGCTGAACGGCAACCGCTTGTGATTCGAGGGCTTAAACCGTCAACGAGCATCATCCTCTGCATGGCTCAGGTCATGGATGAG
369> glIleGluAsnGlyLeuLeuLeuLeuAsnGlyLysProLeuLeuIleArgGlyValAsnArgHisGluHisHisProLeuHisGlyGlnValMetAspGlu
2001 CAGACGATGGTGCAGGATATCCTGCTGATGAAGCAGAACACTTAAACGCGTGGCTGTTCCGATTATCCGAACCATCCGCTGTTGATACCGCTGTGGC
403> GlnThrMetValGlnAspIleLeuLeuMetLysGlnAsnAsnPheAsnAlaValArgCysSerHisTyrProAsnHisProLeuTrpTyrThrLeuCysA
2101 ACCGCTACGGCTGATGTGGTGGATGAAGCAATATTGAAACCCACGGCATGGTGCATGAATCGTCTGACCGATGATCCGCGCTGGCTACCGCGGAT
436> spArgTyrGlyLeuTyrValValAspGluAlaAsnIleGluThrHisGlyMetValProMetAsnArgLeuThrAspProArgTrpLeuProAlaMe
2201 GAGCGAACCGGTAACCGAATGGTGCAGCGGATCGTAATCACCCGAGTGTGATCATCTGGTCGCTGGGGAATGAATCAGGCCACCGCGCTAATCACGAC
469> tSerGluArgValThrArgMetValGlnArgAspArgAsnHisProSerValIleIleTrpSerLeuGlyAsnGluSerGlyHisGlyAlaAsnHisAsp
2301 GGCTGTATCGCTGGATCAAACTGTGCTGATCCTTCCCGCCGGTGCAGTATGAAGCGCGGGAGCCGACACCAGCCACCGATATTATTGGCCGATGT
503> AlaLeuTyrArgTrpIleLysSerValAspProSerArgProGlnTyrGlnTyrGlyGlyAlaAspThrThrAlaAspIleIleLysProMetT
2401 ACCGCGCGTGGATGAAGACAGCCCTTCCCGCTGTCGCGAAATGTTCCATCAAAAATGGCTTTCGCTACCTGGAGAGACCCCGCTGATCCTTTG
536> yrAlaArgValAspGluAspGlnProPheProAlaValProLysTrpSerIleLysLysTrpLeuSerLeuProGlyGluThrArgProLeuIleLeuCy
2501 CGAATACGCCACCGATGGGTAAACAGTCTTGGCGGTTTCGTAATACTGGCAGGGCTTTCGTCAGTATCCCGGTTACAGGGCGGCTTCGCTGGGAC
569> sGluTyrAlaHisAlaMetGlyAsnSerLeuGlyGlyPheAlaLysTyrTrpGlnAlaPheArgGlnTyrProArgLeuGlnGlyGlyPheValTrpAsp
2601 TGGTGGATCAGTCGCTGATTAATATGATGAAAACGGCAACCCGTTGGCTGCGCTACGGCGGTGATTTGGCGATACGCCAAGCATCGCCAGTCTGTGA
603> TrpValAspGlnSerLeuIleLysTyrAspGluAsnGlyAsnProTrpSerAlaTyrGlyGlyAspPheGlyAspThrProAsnAspArgGlnAlaPheCysM
2701 TGAACGCTGCTGCTTTTGGCGACCGCACCGCATCCAGCGTACGGAAAGCAAACACCAGCAGCAGTTTTTCCAGTTCGCTTATCCGGGCAAACCAT
636> etAsnGlyLeuValPheAlaAspArgThrProHisProAlaLeuThrGluAlaLysHisGlnGlnGlnPhePheGlnPheArgLeuSerGlyGlnThrIle
2801 CGAAGTGACCGAATACCTGTTCCGTCATAGCGATAACGAGCTCCTGCACTGGATGGTGGCGCTGGATGGTAAGCCGCTGGCAAGCGGTGAAGTGCT
669> eGluValThrSerLeuTyrLeuArgHisGlySerAspAsnGluLeuLeuHisTrpMetValAlaLeuAspGlyLysProLeuAlaSerGlyValPro
2901 CTGGATGCTCGCTCCACAAGGTAACAGTTGATTTGAACCTGCTGAACTACCCGACCGGAGAGCGCCGGCAACTCTGGCTCACAGTACCGCTAGTGCAAC
703> LeuAspValAlaProGlnGlyLysGlnLeuIleGluLeuProGluLeuProGlnProGluSerAlaGlyGlnLeuTrpLeuThrValArgValValGlnP
3001 CGAACCGACCGCATGGTGCAGAACCGGGCACATCAGCGCTGGCAGCAGTGGCGTCTGGCGGAAAACCTCAGTGTGACGCTCCCGCCGCTCCACGC
736> roAsnAlaThrAlaTrpSerGluAlaGlyHisIleSerAlaTrpGlnGlnTrpArgLeuAlaGluAsnLeuSerValThrLeuProAlaAlaSerHisAl
3101 CATCCCGCATCTGACCACCGGAAATGGATTTTGCATCGAGCTGGGTAATAAGCGTTGGCAATTTAACCGCCAGTCAAGCTTCTTTACAGATGTGG
769> alIleProHisLeuThrThrSerGluMetAspPheCysIleGluLeuGlyAsnLysArgTrpGlnPheAsnArgGlnSerGlyLeuProGlnMetTrp
3201 ATTGGCGATAAAAAACAACTGTGACGCGCTGCGGATCAGTTCACCCGTCACCGCTGGATAACGACATTGGCGTAAGTGAAGCGACCCGATTGACC
803> IleGlyAspLysLysGlnLeuLeuThrProLeuArgAspGlnPheThrArgAlaProLeuAspAsnAspIleGlyValSerGluAlaThrArgIleAspP
3301 CTAACGCTGGTGCAGCCTGGAAGCGCGGGCCATTACCAGCCGAAAGCAGCGTGTGGTGCAGTGCACGGCAGATACACTTGCTGATCGCGTGGTGTAT
836> roAsnAlaTrpValGluArgTrpLysAlaAlaGlyHisTyrGlnAlaGluAlaAlaLeuLeuGlnCysThrAlaAspThrLeuAlaAspAlaValLeuI
3401 TACGACCGCTCAGCGTGGCAGCATCAGGGGAAAACCTTATTATCAGCCGAAAACCTACCGGATTGATGGTAGTGGTCAAATGGCGGATTAACCGTTGAT
869> eThrThrAlaHisAlaTrpGlnHisGlnGlyLysThrLeuPheIleSerArgLysThrTyrArgIleAspGlySerGlyGlnMetAlaIleThrValAsp
3501 GTTGAAGTGGCAGGATACCCGATCCGGCGGATTGGCTGAACTGCCAGCTGGCGCAGGTAGCAGAGCGGTAACCTGGCTCGGATTAGGGCCG
903> ValGluValAlaSerAspThrProHisProAlaArgIleGlyLeuAsnCysGlnLeuAlaGlnValAlaGluArgValAsnTrpLeuGlyLeuGlyProG

3601 AAGAAAATATCCCGACCGCCTTACTGCCGCCTGTTTTGACCCTGGGATCTGCCATTGTCCAGACATGTATACCCCGTACGTCTCCCGAGCGAAAACGG
 936▶ InGluAsnTyrProAspArgLeuThrAlaAlaCysPheAspArgTrpAspLeuProLeuSerAspMetTyrThrProTyrValPheProSerGluAsnG
 3701 TCTGCGTGGGGACGGCGAATTGAATTATGGCCACACCAGTGGCGGGGACTTCCAGTTCAACATCAGCCGCTACAGTCAACAGCAACTGATGGAA
 969▶ yLeuArgCysGlyThrArgGluLeuAsnTyrGlyProHisGlnTrpArgGlyAspPheGlnPheAsnI leSerArgTyrSerGlnGlnGlnLeuMetGlu
 3801 ACCAGCCATCGCCATCTGCTGCACGGGAAGAAGGCACATGGCTGAATATCGACGGTTTCCATATGGGGATTGGTGGCGAGACTCCTGGAGCCCGTCAG
 1003▶ ThrSerHisArgHisLeuLeuHisAlaGluGluGlyThrTrpLeuAsnI leAspGlyPheHisMetGlyI leGlyGlyAspAspSerTrpSerProSerV
EcoRI (3979)

3901 TATCGGGCGAATTACAGCTGAGCGCCGGTCCGCTACCATTACCAGTTGGTCTGGTGTCAAAAATAATAATCTAGTCGAGAATTCGCTAGCTCGACATGATA
 1036▶ alSerAlaGluLeuGlnLeuSerAlaGlyArgTyrHisTyrGlnLeuValTrpCysGlnLys•••

4001 AGATACATTGATGAGTTTGGACAAACCACAAC TAGAATGCAGTGA AAAAAATGCTTTATTTGTGAAATTTGTGATGC TATTGCTTTATTTGTGAAATTTG

4101 TGATGCTATTGCTTTATTTGTAAACCATTATAAGCTGCAATAAACAAGTTAACAACAACAATTGCATTCATTTTATGTTTTAGGTTTCAGGGGGAGGTGTGG

PacI (4260)

4201 GAGGTTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTAGATCCATTTAAATGTTAATTAAGTACCCATGACCAAAATCCCTTAACGTGAGTTTTCCGTT

4301 CCACTGAGCGCTCAGACCCCGTAGAAAAGATCAAAGGATCTTCTTGAGATCCTTTTTTTCTGCGCGTAATCTGCTGCTGCAAAACAAAAAACCCCGCTA

4401 CCAGCGGTGGTTTGTGGCGGATCAAGAGCTACCAACTCTTTTTCCGAAGGTAAGTGGCTTCAGCAGAGCGCAGATACCAAATACTGTTCTTCTAGTGT

4501 AGCCGTAGTTAGGCCACCACTTCAAGAAGCTGTAGCACCGCTACATACCTCGCTCTGCTAATCCTGTTACCAGTGCTGCTGCCAGTGGCGATAAGTC

4601 GTGTCTTACCGGTTGGACTCAAGACGATAGTTACCGGATAAGGCGCAGCGTCCGGCTGAACGGGGGTTCTGTGCACACAGCCAGCTTGGAGCGAACC

4701 ACCTACACCGAACTGAGATACCTACAGCGTGAGCTATGAGAAAGCGCCACGCTTCCCGAAGGGAGAAAGCGGACAGGTATCCGGTAAGCGGCAGGGTCCG

4801 GAACAGGAGAGCGCAGAGGGAGCTTCCAGGGGAAACGCCTGGTATCTTTATAGTCTGTCCGGTTTCGCCACCTCTGACTTGAGCGTCGATTTTTGTG

PacI (5000)

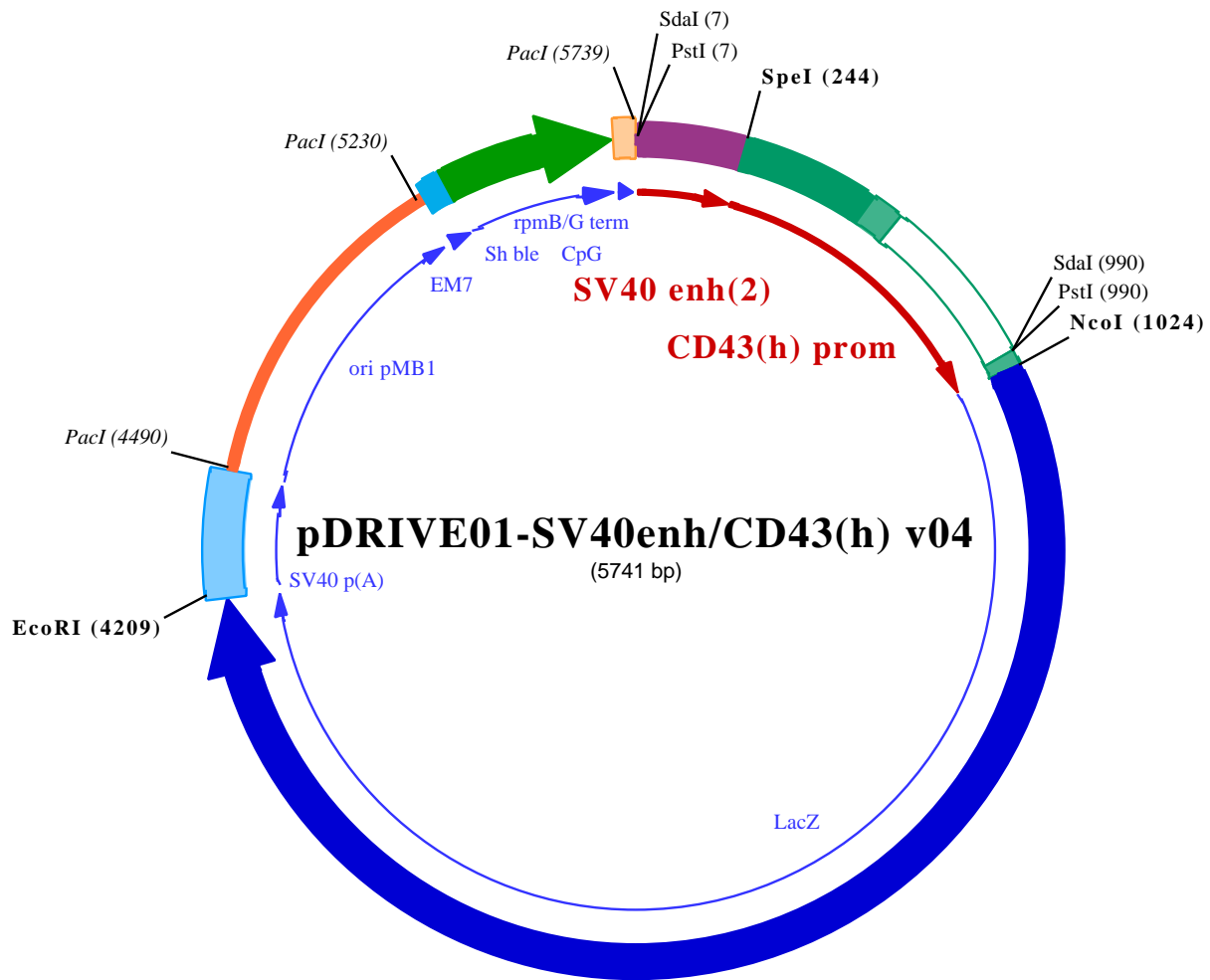
4901 ATGCTCGTCAGGGGGCGGAGCCTATGAAAAACGCCAGCAACGCGGCTTTTTACGGTTCCTGGCCTTTTGTGGCCTTTTGTCCACATGTTCTTAATT

5001 AAATTTTCAAAGTAGTTGACAATTAATCATCGGCATAGTATATCGGCATAGTATAATACGACTCACTATAGGAGGGCCATCATGGCCAAGTTGACCAG

5101 TGCTGTCCAGTGCTCACAGCCAGGGATGTGGCTGGAGCTGTTGAGTTCTGGACTGACAGGTTGGGGTTCTCCAGAGATTTTGTGGAGGATGACTTTGCA
 6▶ rAlaValProValLeuThrAlaArgAspValAlaGlyAlaValGluPheTrpThrAspArgLeuGlyPheSerArgAspPheValGluAspAspPheAla
 5201 GGTGTGGTCAGAGATGATGTACCCTGTTTCTCAGCAGTCCAGGACCAGGTGGTGCCTGACAACCCCTGGCTTGGGTGTGGGTGAGAGGACTGGATG
 40▶ GlyValValArgAspAspValThrLeuPheI leSerAlaValGlnAspGlnValValProAspAsnThrLeuAlaTrpValTrpValArgGlyLeuAspG
 5301 AGCTGTATGCTGAGTGGAGTGGTGTCTCCACCAACTTCAGGGATGCCAGTGGCCCTGCCATGACAGAGATTGGAGAGCAGCCCTGGGGGAGAGAGTT
 73▶ luLeuTyrAlaGluTrpSerGluValValSerThrAsnPheArgAspAlaSerGlyProAlaMetThrGluI leGlyGluGlnProTrpGlyArgGluPh
 5401 TGCCTGAGAGACCAGCAGGCAACTGTGTGCACTTTGTGGCAGAGGAGCAGGACTGAGGATAAGAATTGTAACAAAAACCCCGCCCGGGGGTTTT
 106▶ eAlaLeuArgAspProAlaGlyAsnCysValHisPheValAlaGluGlnAsp•••

PacI (5509)

5501 TTGTTAATTAA



150

PstI (7)
SdaI (7)

1 CCTGCAGGGCCTGAAATAACCTCTGAAAGAGGAACCTTGGTTAGGTACCTTCTGAGGGGAAAGAACCAGCTGTGGAATGTGTCTCAGTTAGGGTGTGGAA
101 AGTCCCCAGGCTCCCCAGCAGGCAGAAGTATGCAAAGCATGCATCTCAATTAGTCTAGCAACCAGGTGTGAAAGTCCCCAGGCTCCCCAGCAGGCAGAAG
SpeI (244)
201 TATGCAAAGCATGCATCTCAATTAGTCTAGCAACCATAGTCCCACTAGTTCTCAGGCTCACATTTCCACCACCACCTCTGAGCCCAGCCCTCCCTAGCAT
301 CACCACCTCCATCCCATTCTCAGCCAAGAGCCAGGAATCCTGATTCAGATCCCACGGTTCCTGCCTCCCTCAGGTGAGCCCCAGACCCCAAGCACC
401 CCGCTGGCCCTGAAGGAGCAGGTGATGGTGTCTTCCGCCAGCAGCTGTGGAGCAGCCGGTGGGGCAGGATGGAGGGTGGGTGGGTGGTGGAA
501 GCCAGGGCCACTTCCTTTCCCTTGGGGCCCTGTCTTCCAGTCTTGCCCAAGCTCGGGAGGTGGTGGAGTGACCTGGCCCCAGTGCTGCGTCTTA
601 TCAGCCGAGCCGtaagagggtgagacttggtagggtaggggctcagtagggctgggaatgtgcctgtggcttgaaaagactctgacaggttatgatgg
701 gaagagattgggagcattgggctgcacagggtcaggaaggccaggaggggctggtcactgctggaatctaagctgctgaggctggaggagcctcagg
801 atggggctgatggggagctgccagcatctgttctctgtcatttctgataacagtaaaagccagcatggaaaaaccgttaaacccaggttgggcctg
PstI (990)
SdaI (990)
901 gccgttggcaggggaagtgggcagagggggagggcccgccaggtcctccggcaactcccgcgtgttctgcttctccggctgcccactgcagGTCCAGCTC

NcoI (1024)

1001 TTGCTCCTGCCTGTTTGCTGACCATGGGGGTTCTCATCATCATCATCATGGTATGGCTAGCATGACTGGTGGACAGCAAATGGGTCCGGATCTGT
1101 ACGACGATGACGATAAGGTACCTAAGGATCAGCTTGGAGTTGATCCCGTCTTTTACAACGCTGCTGACTGGGAAAACCTGGCGTTACCAACTTAATCG
26 yrAspAspAspAspLysValProLysAspGlnLeuGlyValAspProValLeuGlnArgArgAspTrpGluAsnProGlyValThrGlnLeuAsnAr
1201 CCTTGCAGCACATCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGCCGCCACCGATCGCCCTTCCAACAGTTGGCAGCCTGAATGGGAATGGCGC
59 gLeuAlaAlaHisProProPheAlaSerTrpArgAsnSerGluGluAlaArgThrAspArgProSerGlnGlnLeuArgSerLeuAsnGlyGluTrpArg
1301 TTTGCCTGGTTTCCGGCACCAGAAGCGGTGCCGAAAGCTGGCTGGAGTGGATCTTCTGAGGCGGATACTGTCTGCTGCCCTCAAACCTGGCAGATGC
93 PheAlaTrpPheProAlaProGluAlaValProGluSerTrpLeuGlyCysAspLeuProGluAlaAspThrValValValAlaValMetH
1401 ACGGTTACGATCGCCCATCTACACCAACGTAACCTATCCATTACGGTCAATCCGCGTTTGTCCACGGAGAATCCGACGGGTTGTACTCGCTCAC
126 isGlyTyrAspAlaProlIeTyrThrAsnValThrTyrProlIeThrValAsnProProPheValProThrGluAsnProThrGlyCysTyrSerLeuTh
1501 ATTTAATGTTGATGAAAGCTGGCTACAGGAAGGCCAGACGCGAATTATTTTGTAGCGGTTAACTCGCGGTTTTCATCTGTGGTGAACGGGGCTGGGTC
159 rPheAsnValAspGluSerTrpLeuGlnGluGlyGlnThrArgIleIlePheAspGlyValAsnSerAlaPheHisLeuTrpCysAsnGlyArgTrpVal
1601 GGTACGGCCAGGACAGTGTGTTGCGTCTGAATTTGACCTGAGCGCATTTTACGGCGCGAGAAAACCGCTCGCGGTGATGGTGTGCTGCGTTGGAGTG
193 GlyTyrGlyGlnAspSerArgLeuProSerGluPheArgLeuAlaValLeuArgAlaGlyGluAsnArgLeuAlaValMetValLeuArgTrpSerA
1701 ACGGCAGTTATCTGGAAGATCAGGATATGTGGCGGATGAGCGGCATTTTCCGTGACGCTCTCGTTGCTGCATAAACCGACTACACAAATCAGCGATTCCA
226 spGlySerTyrLeuGluAspGlnAspMetTrpArgMetSerGlyIlePheArgAspValSerLeuLeuHisLysProThrThrGlnIleSerAspPheHi
1801 TGTGGCACTCGCTTAATGATGATTTACGCCGCGTGTACTGGAGGCTGAAGTTCAGATGTGCGCGGAGTTGCGTGACTACCTACGGGTAACAGTTTCT
259 sValAlaThrArgPheAsnAspPheSerArgAlaValLeuGluAlaGluValGlnMetCysGlyGluLeuArgAspTyrLeuArgValThrValSerG
1901 TTATGGCAGGGTGAACCGCAGGTCCGCCAGCGGCCCTTTCGGCGGTGAAATTCATCGATGAGCGTGGTGGTTATGCCGATCCGGTCCACACTACGTC
293 LeuTrpGlnGlyGluThrGlnValAlaSerGlyThrAlaProPheGlyGlyGluIleIleAspGluArgGlyGlyTyrAlaAspArgValThrLeuArgL
2001 TGACGTCGAAAACCCGAACTGTGGAGCGCCGAAATCCCGAATCTCTATCGTGGCTGGTTGAACTGCACACCGCCGACGGCACGCTGATTGAAGCAGA
326 euAsnValGluAsnProLysLeuTrpSerAlaGluIleProAsnLeuTyrArgAlaValValGluLeuHisThrAlaAspGlyThrLeuIleGluAlaGI
2101 AGCCTCGATGCTCGGTTTCCGGAGGTGGGATGAAATGGTCTGCTGCTGCTGAACGGCAAGCCGTTGCTGATTCGAGGCGTTAACCGTCCAGGATC
359 uAlaCysAspValGlyPheArgGluValArgIleGluAsnGlyLeuAlaValLeuAsnGlyLysProLeuLeuIleArgGlyValAsnArgHisGluHis
2201 CATCCTCTGCATGGTCAGGTCTAGGATGAGCAGACGATGGTGAGGATATCTGTGATGAGCAGAACAACTTTAACGCGGTGCGTGTTCGATTATC
393 HisProLeuHisGlyGlnValMetAspGluGlnThrMetValGlnAspIleLeuLeuMetLysGlnAsnAsnPheAsnAlaValArgCysSerHisTyrP
2301 CGAACCTCCGCTGTGGTACACGCTGTGCGACCGCTACGGCCTGTATGTGGTGGATGAAGCCAATATGAAACCCACGGCATGGTGCCAATGAATCGTCT
426 roAsnHisProLeuTyrTrpTyrThrLeuCysAspArgTyrGlyLeuTyrValValAspGluAlaAsnIleGluThrHisGlyValMetValProMetAsnArgLe
2401 GACCGATGATCCGCGTGGCTACCGCGATGAGCGAAGCTAACCGAATGGTGACGCGCATCGTAATCACCGAGTGTGATCATCTGGTCTGGCTGGGG
459 uThrAspAspProArgTrpLeuProAlaMetSerGluArgValThrArgMetValGlnArgAspArgAsnHisProSerValIleIleTrpSerLeuGly
2501 AATGAATCAGGCCACGGCGCTAATCACGACGCGCTGTATCGTGGATCAAATCTGTGATCCTTCCCGCCGGTGCAGTATGAAGCGCGCGAGCCGACA
493 AsnGluSerGlyHisGlyAlaAsnHisAspAlaLeuTyrArgTrpIleLysSerValAspProSerArgProValGlnTrpGluGlyGlyAlaAspT
2601 CCACGGCCAGGATATTATTGCCCCGATGACGGCGCGTGGATGAAGACCAGCCCTTCCCGCTGTGCGGAAATGGTCCATCAAAAAATGGCTTTCGCT
526 hrThrAlaThrAspIleIleCysProMetTyrAlaArgValAspGluAspGlnProPheProAlaValProLysTrpSerIleLysLysTrpLeuSerLe
2701 ACCTGGAGAGACGGCCCGCTGATCCTTTGCGAATACGCCACCGGATGGTAAACAGTCTTGGCGGTTTTCGCTAAATACTGGCAGCGGTTTCGCTAGTAT
559 uProGlyGluThrArgProLeuIleLeuCysGluTyrAlaHisAlaMetGlyAsnSerLeuGlyGlyPheAlaLysTyrTrpGlnAlaPheArgGlnTyr
2801 CCCGTTTACAGGGCGGCTTCTCTGGGACTGGGTGGATCAGTCGCTGATTAATATGATGAAAACGGCAACCCGTTGGTGGCTTACGGCGGTGATTTTG
593 ProArgLeuGlnGlyPheValTrpAspTrpValAspGlnSerLeuIleLysTyrAspGluAsnGlyAsnProTrpSerAlaTyrGlyAspPheG
2901 CGGATACGCCGAAACGATCCGCACTTCTGATGAACGCTGTGGTCTTTCCGCGACCGCCGATCCAGCGTGACCGAAGCAAAACACAGCAGCAGGTT
626 lyAspThrProAsnAspArgGlnPheCysMetAsnGlyLeuValPheAlaAspArgThrProHisProAlaLeuThrGluAlaLysHisGlnGlnGlnPh
3001 TTCCAGTTCGGTTATCCGGGCAAACCATCGAAGTACCAGCGAATACCTGTTCCGTCATAGCGATAACGAGCTCCTGCAGTGGATGGTGGCGCTGGAT
659 ePheGlnPheArgLeuSerGlyGlnThrIleGluValThrSerGluTyrLeuPheArgHisSerAspAsnGluLeuLeuHisTrpMetValAlaLeuAsp
3101 GGTAAGCCGCTGGCAAGCGGTGAAGTGCCTCTGGATGCTCCACAAGGTAACAGTGTGATTGAAGTGCCTGAACTACCGCAGCCGAGAGCGCGGGC
693 GlyLysProLeuAlaSerGlyGluValProLeuAspValAlaProGlnGlyLysGlnLeuIleGluLeuProGluLeuProGlnProSerAlaGlyG
3201 AACTCTGGCTCACAGTACGGTAGTGCACCGAACCGGACCGCATGGTCAAGCCGGGCACATCAGCGCTGGCAGCAGTGGCGTCTGGCGGAAAACCT
726 InLeuTrpLeuThrValArgValValGlnProAsnAlaThrAlaTrpSerGluAlaGlyHisIleSerAlaTrpGlnGlnTrpArgLeuAlaGluAsnLe
3301 CAGTGTGACGCTCCCCCGCGTCCCACGCCATCCCGCATCTGACCACCAGCGAAATGGATTTTGCATCGAGCTGGGTAATAAGCGTTGGCAATTTAAC
759 uSerValThrLeuProAlaAlaSerHisAlaIleProHisLeuThrThrSerGluMetAspPheCysIleGluLeuGlyAsnLysArgTrpGlnPheAsn

3401 CGCCAGTCAGGCTTTCTTTACAGATGTGGATTGGCGATAAAAAACAACTGCTGACGCCGCTGCGGATCAGTTCACCCGTGCACCCTGGATAACGACA
793 ArgGlnSerGlyPheLeuSerGlnMetTrpIeGlyAspLysLysGlnLeuLeuThrProLeuArgAspGlnPheThrArgAlaProLeuAspAsnAspI
3501 TTGGCGTAAGTGAAGCGACCCGATTGACCCTAACGCCTGGGTGCAACGCTGGAAGGCGGGGCCATTACCAGGCCGAGCAGCTTGTTCAGTGCAC
826 IeGlyValSerGluAlaThrArgIeAspProAsnAlaTrpValGluArgTrpLysAlaAlaGlyHisTyrGlnAlaGluAlaAlaLeuLeuGlnCysTh
3601 GGCAGATACACTTGCTGATGCGGTGCTGATTACGACCCTCACGCGTGGCAGCATCAGGGGAAAACCTTATTATCAGCCGGAAAACCTACCCGATTGAT
859 rAlaAspThrLeuAlaAspAlaValLeuIeThrThrAlaHisAlaTrpGlnHisGlnGlyLysThrLeuPheIeSerArgLysThrTyrArgIeAsp
3701 GGTAAGTGGTCAAATGGCGATTACCGTTGATGTTGAAGTGGCGAGCGATACCCGCATCCGGCGCGGATTGGCCTGAACTGCCAGCTGGCGCAGGTAGCAG
893 GlySerGlyGlnMetAlaIeThrValAspValGluValAlaSerAspThrProHisProAlaArgIeGlyLeuAsnCysGlnLeuAlaGlnValAlaG
3801 AGCGGGTAAACTGGCTCGGATTAGGGCCGCAAGAAAACCTATCCCGACCCGCTTACTGCCGCTGTTTTGACCCTGGGATCTGCCATTGTGACACATGTA
926 IuArgValAsnTrpLeuGlyLeuGlyProGlnGluAsnTyrProAspArgLeuThrAlaAlaCysPheAspArgTrpAspLeuProLeuSerAspMetTyr
3901 TACCCCGTACGCTTCCCGAGCGAAAACGGTCTGCGCTGCGGGACGCGGAATTGAATTATGGCCACACCAGTGGCGCGGGCACTCCAGTCAACATC
959 rThrProTyrValPheProSerGluAsnGlyLeuArgCysGlyThrArgGluLeuAsnTyrGlyProHisGlnTrpArgGlyAspPheGlnPheAsnIe
4001 AGCCGCTACAGTCAACAGCAACTGATGAAACCAGCCATCGCCATCTGCTGCACGCGGAAGAAGGCACATGGCTGAATATCGACGGTTCCATATGGGGA
993 SerArgTyrSerGlnGlnGlnLeuMetGluThrSerHisArgHisLeuLeuHisAlaGluGluGlyThrTrpLeuAsnIeAspGlyPheHisMetGlyI
4101 TTGGTGGCGACGACTCCTGGAGCCCGTCAGTATCGCGGAATTACAGCTGAGCGCGGCTCGTACCATTACCAGTTGGTCTGGTGTCAAAAATAATAATC
1026 IeGlyGlyAspAspSerTrpSerProSerValSerAlaGluLeuGlnLeuSerAlaGlyArgTyrHisTyrGlnLeuValTrpCysGlnLys•••

EcoRI (4209)

4201 TAGTCGAGAATTCGCTAGCTCGACATGATAAGATACATTGATGAGTTTGGACAAACCACAAC TAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTT
4301 GTGATGCTATTGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAAACAAGTTAACACAACAATTCATTTCAT

PacI (4490)

4401 TTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTAGATCCATTTAAATGTTAATTAAGTACCCAT
4501 GACCAAAATCCCTTAACGTGAGTTTTTCGTTCCACTGAGCGTCAGACCCCGTAGAAAAGATCAAAGGATCTTCTTGAGATCCTTTTTTCTGCGCGTAATC
4601 TGCTGCTTGCAAAACAAAAACCACCGCTACCAGCGGTGTTTGTGTTGCCGGATCAAGAGCTACCAACTCTTTTTCCGAAGGTAAGTGGCTTCAGCAGAG
4701 CGCAGATACAAATACTGTTCTTCTAGTGTAGCCGTAGTTAGGCCACCCTCAAGAAGTCTGTAGCACCCTACATACCTCGCTCTGCTAATCCTGTT
4801 ACCAGTGGCTGCTGCCAGTGGCGATAAGTCTGTCTTACCAGGTTGGACTCAAGACGATAGTTACCGGATAAGGCGCAGCGGTCGGGCTGAACGGGGGT
4901 TCGTGCACACAGCCAGCTTGGAGCGAACGACCTACACCGAACTGAGATACCTACAGCGTGAGCTATGAGAAAGCGCCACGCTCCCGAAGGGAGAAAGG
5001 CGGACAGGTATCCGGTAAGCGGCAGGGTGGAAACAGGAGAGCGCACGAGGGAGCTTCCAGGGGAAACGCCTGGTATCTTTATAGTCTGTGCGGTTTTCG
5101 CCACCTCTGACTTGAGCGTCGATTTTTGTGATGCTCGTCAGGGGGCGGAGCCTATGAAAAACGCCAGCAACGCGGCTTTTTACGGTTCTCGGCCTTT

PacI (5230)

5201 TGCTGGCCTTTTGTCTACATGTTCTTAATTAATTTTCAAAAGTAGTTGACAATTAATCATCGGCATAGTATATCGGCATAGTATAATACGACTCACTA
5301 TAGGAGGGCCATCATGGCCAAGTTGACCAGTGTGTCCAGTGTCTCACAGCCAGGGATGTGGCTGGAGCTGTTGAGTCTGGACTGACAGGTTGGGGTTC
1 MetAlaLysLeuThrSerAlaValProValLeuThrAlaArgAspValAlaGlyAlaValGluPheTrpThrAspArgLeuGlyPhe
5401 TCCAGAGATTTTGTGGAGGATGACTTTGCAGGTGTGGTCAGAGATGATGTCACCCTGTTTCATCTCAGCAGTCCAGGACCAGGTGGTGCCTGACAACCCC
30 SerArgAspPheValGluAspAspPheAlaGlyValValArgAspAspValThrLeuPheIeSerAlaValGlnAspGlnValValProAspAsnThrL
5501 TGGCTTGGGTGTGGGTGAGAGGACTGGATGAGCTGTATGCTGAGTGGAGTGGGTGGTCTCCACCAACTTCAGGGATGCCAGTGGCCCTGCCATGACAGA
63 IuAlaTrpValTrpValArgGlyLeuAspGluLeuTyrAlaGluTrpSerGluValValSerThrAsnPheArgAspAlaSerGlyProAlaMetThrGl
5601 GATTGGAGAGCAGCCCTGGGGGAGAGAGTTTGCCTGAGAGACCAGCAGGCAACTGTGTGACTTTGTGGCAGAGGAGCAGGACTGAGGATTAAGAATTG
96 ulIeGlyGluGlnProTrpGlyArgGluPheAlaLeuArgAspProAlaGlyAsnCysValHisPheValAlaGluGluGlnAsp•••

PacI (5739)

5701 TAACAAAAAACCCCGCCCGGGGTTTTTTGTTAATTA