

TECHNICAL SUPPORT
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Bsp120I (7)
PstI (6)
SdaI (6) **SpeI (13)** **BstEII (90)**

1 CCTGCAGGGCCACTA **GTC**ATTCTTACCTCCCCTCCCTCTCCACCTGCTACTGGGTGCATCTCTGCTCCCCCTTCCCCAGCAGATGGTTACCTTTG

101 GGCTGTTGCTTTCTTGTACCACCTGAGTTCTCAGACGCTGAAAGCCATGTTCTCGGCTCTGTGAATGACAATGCTGACTGGAGTGTGCCCTCTGTA

201 AAGGGCTGGGTGTGGATGGTCACAAGCCCTCACATGCCTCAGCCAAGAGGAAGTAGTACAGGGGTGAGCCAGAGGTCAGGGGAAAGGAGTGAAACC

301 GATTTCCCACCAAGGGAGGGCCGTGTACCTCAGCTGTCCCATAGCTACTTGCCACAACCTGCCAAGCAAGTTTCGCTGAGTTTGACACATGGATCCCTG

BamHI (392)

401 TGGATCAACTGCCTAGGACTCCGTTTGACCCCATGTGACACTGTTGACTTTGCCCTGATGAAGCAGGGCCAACAGTCCCCTAACTTAATTACAAAACT

AvrII (413)

501 AATGACTAAGAGAGAGGTGGCTAGAGCTGAGGCCCTGAGTCAGGCTGTGGTGGGATCATCTCCAGTACAGGAAGTGAGACTTTCATTTCTCCTTTCC

EcoNI (539)

601 AAGAGAGGGCTGAGGGAGCAGGGTTGAGCAACTGGTGCAGACAGCCTAGCTGGACTTTGGGTGAGGCGGTTACGCCATGGGGGTTTCATCATCATCAT

NcoI (675)
MetGI yGI ySerHi sHi sHi sHi s

Bsu36I (774)
Acc65I (769)

701 CATCATGGTATGGCTAGCATGACTGGTGACAGCAAATGGGTCGGGATCTGTACGACGATGACGATAAGGTACCTAAGGATCAGCTTGAGGTTGATCCCG

9>Hi sHi sGI yMet aI aSer Me tThr GI yGI nGI nMe tGI yA rgAspLeuTyrAspAspAspAspLysVal I ProLysAspGI nLeuGI yVal AspP roV

801 TCGTTTTACAACGCTGTGACTGGGAAAACCTGGCGTTACCCAACCTAATCGCCTTGACGACATCCCCCTTCCGACGCTGGCGTAATAGCGAAGAGGC

42>al Val LeuGI nArgArgAspTrpGI uAsnP roGI yVal Thr GI nLeuAsnArgLeuAl aAl aHi sP roP roPheAl aSer TrpArgAsnSer GI uGI uAl

FspI (929)

901 CCGCACCGATCGCCCTTCCAACAGTTGCGCAGCCTGAATGGCGAATGGCGCTTTGCCTGGTTTCCGGCACCAGAAGCGGTGCCGAAAGCTGGCTGGAG

75>aArgThrAspArgP roSer GI nGI nLeuArgSer LeuAsnGI yGI uTrpArgPheAl aTrpPheP roAl aP roGI uAl aVal I P roGI uSer TrpLeuGI u

Bsu36I (1011)

1001 TGCATCTTCTGAGGCCGATACTGTCTGCTCCCTCAAACCTGGCAGATGCACGGTTACGATGCGCCATCTACACCAACGTAACCTATCCCATTACGG

109>CysAspLeuP roGI uAl aAspThr Val Val I ProSerAsnTrpGI nMe tHi sGI yTyrAspAl aP roI l eTyrThrAsnVal Thr TyrProI l eThr V

1101 TCAATCCGCGTTTGTCCACGGAGAATCCGACGGGTTGTTACTCGCTCACATTTAATGTTGATGAAAGCTGGCTACAGGAAGGCCAGACGCGAATTAT

142>aI AsnP roP roPheVal P roThr GI uAsnP roThr GI yCysTyrSer LeuThrPheAsnVal AspGI uSer TrpLeuGI nGI uGI yGI nThrArgI l eI l

1201 TTTTGTGGCGTTAACTCGGCGTTTCATCTGTGGTGCAACGGGCGCTGGGTGGTACGGCCAGGACAGTCTGTTGGCTGCTGAATTTGACCTGAGCGCA

175>ePheAspGI yVal AsnSer Al aPheHi sLeuTrpCysAsnGI yArgTrpVal GI yTyrGI yGI nAspSer ArgLeuP roSer GI uPheAspLeuSer Al a

1301 TTTTACGCGCCGAGAAAACCGCTCGCGGTGATGGTGTGCTGGTGGAGTGACGGCAGTTATCTGGAAGATCAGGATATGTGGCGGATGAGCGGCATTT

209>PheLeuArgAl aGI yGI uAsnArgLeuAl aVal I MetVal I LeuArgTrpSerAspGI ySer TyrLeuGI uAspGI nAspMe tTrpArgMe tSer GI yI l eP

AatII (1410)

1401 TCCGTGAGCTCTGCTGTCATAAACCGACTACACAAATCAGCGATTTCCATGTTGCCACTCGCTTTAATGATGATTTACGCCGCGCTGACTGGAGGC

242>heArgAspVal I Ser LeuLeuHi sLysP roThr Thr GI nI l eSerAspPheHi sVal I Al aThr ArgPheAsnAspAspPheSerArgAl aVal I LeuGI uAl

1501 TGAAGTTCAGATGTGCGCGAGTTGCGTACTACTACGGTAACAGTTTCTTTATGGCAGGGTAAAACGCGAGTCCGACGCGCACCAGCCTTCCGGC

275>aGI uVal GI nMe tCysGI yGI uLeuArgAspTyrLeuArgVal Thr Val Ser LeuTrpGI nGI yGI uThr GI nVal I Al aSer GI yThrAl aP roPheGI y

ClaI (1611)

1601 GGTGAAATTATCGATGAGCGTGGTGGTTATGCCGATCGCGTCACACTAGCTCTGAACGTCGAAAACCCGAAACTGTGGAGCGCGAAATCCCGAATCTCT

309>GI yGI uI l eI l eAspGI uArgGI yGI yTyrAl aAspArgVal Thr LeuArgLeuAsnVal I GI uAsnP roLysLeuTrpSer Al aGI uI l eP roAsnLeuT

1701 ATCGTGGGTGGTTGAATGCACACCGCCGACGCGCAGCTGATTGAAGCAGAAGCCTGGCATGTCGGTTTCCGCGAGGTGCGGATTGAAAATGGTCTGCT

342>yrArgAl aVal Val GI uLeuHi sThrAl aAspGI yThrLeuI l eGI uAl aGI uAl aCysAspVal I GI yPheArgGI uVal I ArgI l eGI uAsnGI yLeuLe

EcoRV (1900)

1801 GCTGCTGAACGGCAAGCCGTTGCTGATTCGAGGCGTTAACCGTCACGAGCATCATCTCTGCATGGTCAGGTCATGGATGAGCAGACGATGGTGCAGGAT

375>uLeuLeuAsnGI yLysP roLeuLeuI l eArgGI yVal I AsnArgHi sGI uHi sHi sP roLeuHi sGI yGI nVal I MetAspGI uGI nThr Me tVal I GI nAsp

1901 ATCCTGCTGATGAAGCAGAACAACCTTAAACCGCTGCGCTGTTCCGATATCCGAACCATCCGCTGTGGTACACGCTGTGCGACCGCTACGGCCTGTATG

409>I l eLeuLeuMe tLysGI nAsnAsnPheAsnAl aVal I ArgCysSer Hi sTyrP roAsnHi sP roLeuTrpTyrThr LeuCysAspArgTyrGI yLeuTyrV

SspI (2017)

2001 TGTTGGATGAAGCCAATATTGAAACCCACGGCATGGTGCCAATGAATCGTCTGACCGATGATCCGCGCTGGCTACCGCGATGAGCGAACCGGTAACCGG

442>aI Val I AspGI uAl aAsnI l eGI uThr Hi sGI yMe tVal I P roMe tAsnArgLeuThrAspAspP roArgTrpLeuP roAl aMe tSer GI uArgVal ThrAr

BsaBI (2113)

2101 AATGGTGCAGCGCATCGTAATCACCCGAGTGTGATCATCTGGTCTGGGGAATGAATCAGGCCACGGCGCTAATCACGACGCGCTGTATCGCTGGATC

475>gMe tVal I GI nArgAspArgAsnHi sP roSer Val I l eI l eTrpSer LeuGI yAsnGI uSer GI yHi sGI yAl aAsnHi sAspAl aLeuTyrArgTrpI l e

BssHIII (2285) **BbsI (2304)**

2201 AAATCTGTCGATCCTTCCGCCCGGTGCGATGAAGGCGGGAGCCGACACCAGGCCACCGATATTATTTGCCGATGTACGCGCGGTGGATGAAG

509>LysSer Val I AspP roSerArgP roVal GI nTyrGI uGI yGI yAl aAspThr Thr Al aThrAspI l eI l eCysP roMe tTyrAl aArgVal I AspGI uA

2301 ACCAGCCCTTCCCGGCTGTGCCGAAATGGTCCATCAAAAAATGGCTTTCGCTACTGGAGAGACGCGCCGCTGATCCTTTGCGAATACGCCACCGCAT

542>spGI nP roPheP roAl aVal I ProLysTrpSer I l eLysLysTrpLeuSer LeuP roGI yGI uThrArgP roLeuI l eLeuCysGI uTyrAl aHi sAl aMe

2401 GGGTAACAGTCTTGGCGGTTTCGCTAAACTGCGCAGGCGTTTCGTCAGTATCCCGTTTACAGGGCGGCTTCGCTGGGACTGGGTGGATCAGTCGCTG

575>tGI yAsnSerLeuGI yGI yPheAl aLysTyrTrpGI nAl aPheArgGI nTyrP roArgLeuGI nGI yGI yPheVal I TrpAspTrpVal I AspGI nSerLeu

2501 ATTAATATGATGAAAACGGCAACCCGCTGCGCTTACGGCGGTGATTTGGCGATACGCCAAGCAGTCCGCAAGTCTGTATGAACGGTCTGGTCTTTG

609>I l eLysTyrAspGI uAsnGI yAsnP roTrpSer Al aTyrGI yGI yAspPheGI yAspThr P roAsnAspArgGI nPheCysMe tAsnGI yLeuVal I PheA

Eco47III (2622)

2601 CCGACCGCAGCCGCATCCAGCGCTGACGGAAGCAAAACACCAGCAGCAGTTTTTCCAGTTCCGTTTATCCGGGCAAACCATCGAAGTGACCAGCGAATA

642>I aAspArgThr P roHi sP roAl aLeuThr GI uAl aLysHi sGI nGI nGI nPhePheGI nPheArgLeuSer GI yGI nThr I l eGI uVal I ThrSer GI uTy

SacI (2727)

2701 CCTGTTCCGTCATAGCGATAACGAGCTCTGCACTGGATGGTGGCGCTGGATGTAAGCCGCTGGCAAGCGGTGAAGTGCTCTGGATGTCGCTCCACAA

rLeuPheArgHi sSerAspAsnGI uLeuLeuHi sTrpMe tVal I Al aLeuAspGI yLysP roLeuAl aSer GI yGI uVal I P roLeuAspVal I Al aP roGI n

675 ▶ r LeuPheArgHisSerAspAsnGluLeuLeuHisTrpMetValAlaLeuAspGlyLysProLeuAlaSerGlyGluValProLeuAspValAlaProGln
2801 GGTAAACAGTTGATTGAACTGCCTGAAC TACCGCAGCCGGAGAGCGCCGGCAACTCTGGCTCACAGTACGCGTAGTGAACCGAACCGACCGCATGGT
709 ▶ GlyLysGlnLeuIleGluLeuProGluLeuProGlnProGluSerAlaGlyGlnLeuTrpLeuThrValArgValValGlnProAsnAlaThrAlaTrpS
2901 CAGAAGCCGGGCACATCAGCGCCTGGCAGCAGTGGCGTCTGGCGGAAAACCTCAGTGTGACGCTCCCCGCCGCTCCACGCCATCCCGCATCTGACCAC
742 ▶ erGluAlaGlyHisIleSerAlaTrpGlnGlnTrpArgLeuAlaGluAsnLeuSerValThrLeuProAlaAlaSerHisAlaIleProHisLeuThrTh
3001 CAGCGAAATGGATTTTTGCATCGAGCTGGGTAATAAGCGTTGGCAATTTAACGCCAGTCAAGGCTTTCTTTCACAGATGTGGATTGGCGATAAAAAACAA
775 ▶ rSerGluMetAspPheCysIleGluLeuGlyAsnLysArgTrpGlnPheAsnArgGlnSerGlyPheLeuSerGlnMetTrpIleGlyAspLysLysGln
3101 CTGCTGACGCCGCTGCGCATCAGTTCCCGCTGCACCCTGGATAACGACATTTGGCGTAAGTGAAGCGACCCGATTGACCTAACGCCTGGGTCGAAC
809 ▶ LeuLeuThrProLeuArgAspGlnPheThrArgAlaProLeuAspAsnAspIleGlyValSerGluAlaThrArgIleAspProAsnAlaTrpValGluA
3201 GCTGGAAGCGCGGGCCATTACCAGGCCGAAGCAGCGTTGTTGCAGTGCACGGCAGATACACTTGTGTATGCGGTGTGATTACGACCGCTCACGCGTG
842 ▶ rGTrpLysAlaAlaGlyHisTyrGlnAlaGluAlaLeuLeuGlnCysThrAlaAspThrLeuAlaAspAlaValLeuIleThrThrAlaHisAlaTr
3301 GCAGCATCAGGGGAAAACCTTATTTATCAGCCGAAAACCTACCGGATTGATGGTAGTGGTCAAATGGCGATTACCGTTGATGTTGAAGTGGCGAGCGAT
875 ▶ pGlnHisGlnGlyLysThrLeuPheIleSerArgLysThrTyrArgIleAspGlySerGlyGlnMetAlaIleThrValAspValGluValAlaSerAsp
3401 ACACCGCATCCGCGCGGATTGGCTGAACTGCCAGCTGGCGCAGGTAGCAGAGCGGGTAAACTGGCTCGATTAGGGCCGCAAGAAAACCTATCCCGACC
909 ▶ ThrProHisProAlaArgIleGlyLeuAsnCysGlnLeuAlaGlnValAlaGluArgValAsnTrpLeuGlyLeuGlyProGlnGluAsnTyrProAspA

BbsI (3556)

Bst1107I (3549)

BspLU11I (3546) BsiWI (3557)

3501 GCCTTACTGCCGCTGTTTTGACCGCTGGGATCTGCCATTGTCCAGACATGTATACCCCGTACGCTTCCCGAGCGAAAACGGTCTGCGCTGCGGGACGCG
942 ▶ rGLeuThrAlaAlaCysPheAspArgTrpAspLeuProLeuSerAspMetTyrThrProTyrValPheProSerGluAsnGlyLeuArgCysGlyThrAr
3601 CGAATTGAATTATGGCCACACCACTGCGCGGCGACTTCCAGTTCAACATCAGCCGCTACAGTCAACAGCAACTGATGGAAACCAGCCATCGCCATCTG
975 ▶ gGluLeuAsnTyrGlyProHisGlnTrpArgGlyAspPheGlnPheAsnIleSerArgTyrSerGlnGlnLeuMetGluThrSerHisArgHisLeu

NdeI (3744)

3701 CTGCACGGGAAGAGGCACATGGCTGAATATCGACGGTTTCCATATGGGATTGGTGGCGACGACTCTGGAGCCCGTCAAGTATCGGCGGAATTACAGC
1009 ▶ LeuHisAlaGluGluGlyThrTrpLeuAsnIleAspGlyPheHisMetGlyIleGlyGlyAspAspSerTrpSerProSerValSerAlaGluLeuGlnL

NheI (3866)

EcoRI (3860)

3801 TGAGCGCCGGTGCCTACCATTACCAGTTGGTCTGGTGTCAAAAATAATAATCTAGTCGAGAATTCGCTAGCTCGACATGATAAGATACATTGATGAGTTT
1042 ▶ euSerAlaGlyArgTyrHisTyrGlnLeuValTrpCysGlnLys•••

3901 GGACAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATT

MfeI (4040)

DraI (4089)

4001 TGTAACCATTATAAGCTGCAATAAACAAGTTAACAACAACAATTGCATTCATTTATGTTTCAGGTTCCAGGGGAGGTGTGGGAGTTTTTAAAGCAAG

DraI (4128)

SwaI (4131)

4101 TAAAACCTCTACAAATGTGGTAGATCCATTTAAATGTTAATTAAGTAACTAGCCATGACCAAAATCCCTAACGTGAGTTTTCGTTCCTAGCGTCAGACCC

4201 CGTAGAAAAGATCAAAGGATCTTCTTGAGATCCTTTTTCTGCGCGTAATCTGCTGCTTGCAAAACAAAAAACCACCGCTACCAGCGGTGGTTGTTG

4301 CCGGATCAAGAGCTACCAACTCTTTTTCCGAAGGTAAGTGGCTTCAGCAGAGCGCAGATACCAAACTGTTCTTCTAGTGTAGCCGTAGTTAGGCCACC

4401 ACTTCAAGAACTCTGTAGCACCGCTACATACCTCGCTCTGCTAATCCTGTTACCAGTGGCTGCTGCCAGTGGCGATAAGTCGTGCTTACCGGTTGGA

4501 CTCAAGACGATAGTTACCGGATAAAGCGCAGCGGTGCGGCTGAACGGGGGTTCTGTGCACACAGCCAGCTTGGAGCGAACGACCTACACCGAACTGAGA

4601 TACCTACAGCGTGAGCTATGAGAAAGCGCCACGCTTCCGAAGGGAGAAAGCGGACAGGTATCCGGTAAGCGGCAGGGTGGAAACAGGAGAGCGCACGA

4701 GGGAGCTTCCAGGGGAAACGCCTGGTATCTTTATAGTCTGTGCGGTTTCGCCACCTTGACTTGAGCGTCGATTTTTGTGATGCTCGTCAGGGGGCGC

BspLU11I (4869)

4801 GAGCCTATGAAAAACGCCAGCAACCGGCCTTTTTACGGTTCCTGGCCTTTTGTGCGCCTTTTGTGCTCATGTTCTTAATTAATTTTTCAAAGTAGT

AseI (4907)

SfiI (4958)

MscI (4969)

4901 TGACAATTAATCATCGGCATAGTATATCGGCATAGTATAATACGACTCACTATAGGAGGGCCATCATGGCCAAGTTGACAGTGTGTCCAGTGCTCA

5000 CAGCCAGGGATGTGGCTGGAGCTGTTGAGTTCTGGACTGACAGGTTGGGGTCTCCAGAGATTTGTGGAGGATGACTTTCAGGTGTGGTCAGAGATGA

5100 TGTCAACCTGTTTCATCTCAGCAGTCCAGGACAGGTGGTGCCTGACAACCCCTGGCTTGGGTGTGGTGAGAGGACTGGATGAGCTGTATGCTGAGTGG

5200 AGTGAGGTGGTCTCCACCAACTTCAGGGATGCCAGTGGCCTGCCATGACAGAGATTGGAGAGCAGCCCTGGGGAGAGAGTTTCCCTGAGAGACCCAG

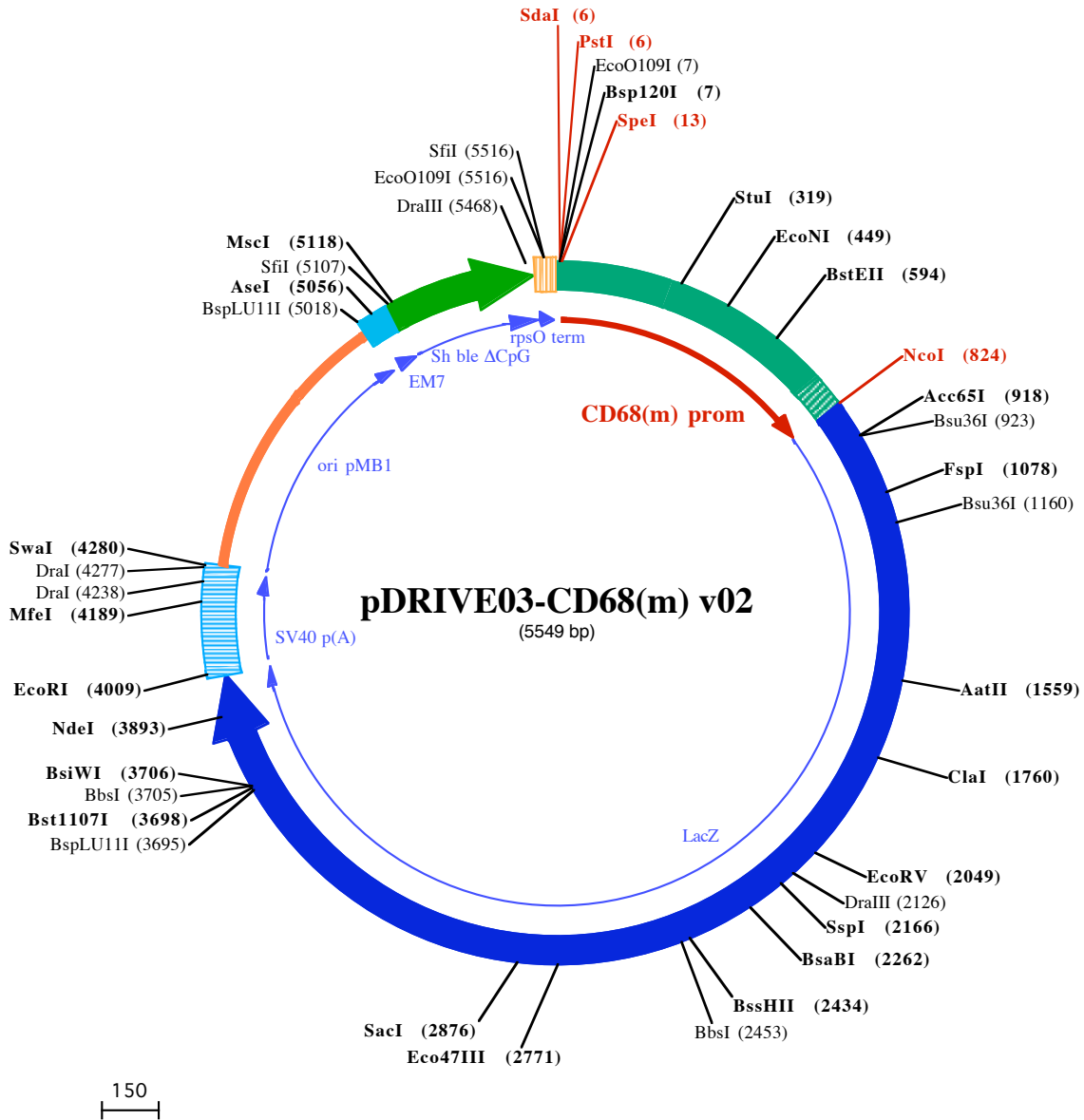
5300 CAGGCAACTGTGTGCATTTGTGCAGAGGAGCAGGACTGAGGATAAGAAATTGAGTTTCAGAAAAGGGGCGCTGAGTGGCCCTTTTTCAACTTAATTA

DraIII (5319)

SfiI (5367)

112 ▶ lAlaGlyAsnCysValHisPheValAlaGluGluGlnAsp•••

5400 A



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Bsp120I (7)
EcoO109I (7)
PstI (6)
SdaI (6) **SpeI (13)**

1 CCTGCAGGCCACTAGTTGATTACTGAATTTGCCATGTTGCTTCTGCAATACCAAATGACCCACATTACTAACATTTGGTAATTTGCCTCAGTGTTAG
101 GCACAAGACATGAGTGAACTTGTCTGCATTAAAGACTTAACTGGCTGGGTATGGTGGCGCAAGCCTTTAATCCCAGCATTCTGCCGGAGGCAGAAGCAGG
201 TGGATTTCTGAGTTCGAGGCTAGCTGGTCTACAAAAGTGAGTTCAGGACAGCCAAGGCTACACAAAATACCTGTCTTGAAAAACAAAAA

StuI (319)

301 ATTCAACTGGTTGGTTAGCCCTAGCCAGATGATGTAGGTGTCAACTCACCTTGGGGATGTAGGGAGATGGTTGTTCTGTAGCTTCTCTGCTCCTGCAAC
401 TAAATAAATAGGCTAAGCTGACCTTTACATCTGCCTTCGGCCTCTGTGCTAGATTGGAGTGCATGGTGGGGTTCATTCTTACCAATGAGGAAAG
EcoNI (449)

501 GGCTTCCCATTTCTGTGTCATTGTAAGCTCCCAAGTAGAGCAAGTTTTGCTTAGGTAAGTTCCTGTGAGTCAGCTGCCTCATTCTCACGAGGTAACC
BstEII (594)

601 AAGGCTTTGTACCGCCACTGAGAACGCTACTGCCAATCACAGCTAATTGTGAAAACCAATGGCTTGTAGTGGGTTGCTAAAGCTGAGGTGTCTGAGTCA
701 GGTTTGGGGTGGGATTATTTTAGTTAAGGGAAGTGAGGCTTTTCAATTTCTCTTCCAAGAGAAGGCAAAGGGGATTGGATTGAGGAAGGAACTGGTGTAG
801 CCTAGCTGGTCTGAGCATCTTGCATGGGGGTTCTCATCATCATCATCATGGTATGGCTAGCATGACTGGTGGACAGCAAATGGGTGGGATCTG
▶ Met Gl y Gl y Ser Hi s Hi s Hi s Hi s Hi s Hi s Gl y Me t Al a Ser Me t Thr Gl y Gl y Gl n Me t Gl y A rg Asp Leu

NeoI (824)
Bsu36I (923)
Acc65I (918)

901 TACGACGATGACGATAAGGTACCTAAGGATCAGCTTGGAGTTGATCCCGTCGTTTTACAACGTCGTGACTGGGAAAACCTGGCGTTACCCAACCTTAATC
26▶ Tyr Asp Asp Asp Asp Lys Val P ro Lys Asp Gl n Leu Gl y Val Asp P ro Val Val Leu Gl n Arg Arg Asp T rp Gl u Asn P ro Gl y Val Thr Gl n Leu Asn A
FspI (1078)

1001 GCCTTGACGACATCCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGCCCGCACCGATCGCCCTTCCAACAGTTGGCGAGCCTGAATGGCGAATGGCG
59▶ r Gl u Al a Al a Hi s P ro P ro P he Al a Ser T rp Arg Asn Ser Gl u Gl u Al a Arg Thr Asp Arg P ro Ser Gl n Gl n Leu Arg Ser Leu Asn Gl y Gl u T rp Ar
Bsu36I (1160)

1101 CTTTGCCTGGTTCCGGCACCAGAAGCGGTGCCGAAAGCTGGCTGGAGTGGCATCTTCTGAGCGGATACTGTCTGCTCCCTCAAACCTGGCAGATG
92▶ g P he Al a T rp P he P ro Al a P ro Gl u Al a Val P ro Gl u Ser T rp Leu Gl u Cys Asp Leu P ro Gl u Al a Asp Thr Val Val Val P ro Ser Asn T rp Gl n Me t
1201 CACGGTTACGATGCGCCCATCTACACCAACGTAACCTATCCCATTACGGTCAATCCGCGCTTGTTCACGGAGAATCCGACGGGTTGTACTCGCTCA
126▶ Hi s Gl y Tyr Asp Al a P ro L e Tyr Thr Asn Val Thr Tyr P ro L e Thr Val Asn P ro P ro P he Val P ro Thr Gl u Asn P ro Thr Gl y Cys Tyr Ser Leu T
1301 CATTAAATGTTGATGAAAGCTGGCTACAGGAAGGCCAGACGCGAATATTTTTGATGGCGTAACTCGGCGTTTCATCTGTGGTGAACGGGCGCTGGGT
159▶ hr P he Asn Val Asp Gl u Ser T rp Leu Gl n Gl u Gl y n Thr Arg L e l l e P he Asp Gl y Val Asn Ser Al a P he Hi s Leu T rp Cys Asn Gl y Arg T rp Va
1401 CGGTTACGGCCAGGACAGCTGTTTCCGCTTGAATTTGACCTGAGCGCATTTTTACGCGCCGGAGAAAACCGCCTCGCGGTGATGGTGGCTGCGTTGGAGT
192▶ l Gl y Tyr Gl y Gl n Asp Ser Arg Leu P ro Ser Gl u P he Asp Leu Ser Al a P he Leu Arg Al a Gl y Gl u Asn Arg Leu Al a Val Me t Val l Leu Arg T rp Ser
AatII (1559)

1501 GACGGCAGTTATCTGGAAGATCAGGATATGTGGCGGATGAGCGGCATTTCCGTGACGTCTCGTTGCTGCATAAACCGACTACACAAATCAGCGATTTC
226▶ Asp Gl y Ser Tyr Leu Gl u Asp Gl n Asp Me t T rp Arg Me t Ser Gl y l l e P he Arg Asp Val Ser Leu Leu Hi s Lys P ro Thr Thr Gl n l l e Ser Asp P he H
1601 ATGTTGCCACTCGCTTAAATGATGATTTAGCCGCGCTGACTGGAGGCTGAAGTTCAGATGTGCGGCGAGTTGCGTGACTACCTACGGGTAACAGTTTC
259▶ i s Val Al a Thr Arg P he Asn Asp Asp P he Ser Arg Al a Val Leu Gl u Al a Gl u Val Gl n Me t Cys Gl y Gl u Leu Arg Asp Tyr Leu Arg Val Thr Val Se
Clal (1760)

1701 TTTATGGCAGGTTGAAACGAGGTCGCCAGCGCCGCTTTCCGGCGTGAATATTCATGAGCGTGGTGGTTATGCCGATCGCGTCACACTACGT
292▶ r Leu T rp Gl n Gl y Gl u Thr Gl n Val Al a Ser Gl y Thr Al a P ro P he Gl y Gl y Gl u l l e l l e Asp Gl u Arg Gl y Gl y Tyr Al a Asp Arg Val Thr Leu Arg
1801 CTGAACGTCGAAAACCGAAACTGTGGAGCGCCGAAATCCCGAATCTCTATCGTGGTGGTGGTGAACGTCACACCGCCGACGCGCAGCTGATTGAAGCAG
326▶ Leu Asn Val l Gl u Asn P ro Lys Leu T rp Ser Al a Gl u l l e P ro Asn Leu Tyr Arg Al a Val Val Gl u Leu Hi s Thr Al a Asp Gl y Thr Leu l l e Gl u Al a G
1901 AAGCTGCGATGTGCGTTTCCGCGAGGTGCGGATTGAAAATGGTCTGCTGCTGCTGAACGGCAAGCCGTTGCTGATTGAGGCGTTAACCGTCCAGGCA
359▶ l u Al a Cys Asp Val l Gl y P he Arg Gl u Val Arg l l e Gl u Asn Gl y Leu Leu Leu Asn Gl y Lys P ro Leu Leu l l e Arg Gl y Val Asn Arg Hi s Gl u Hi
EcoRV (2049)

2001 TCATCTCTGCATGGTCAGGTCATGGATGAGCAGACGATGGTGCAGGATATCTGTGATGAAGCAGAACAACCTTAAACGCCGTGCGCTGTTCCGATTAT
392▶ s Hi s P ro Leu Hi s Gl y Gl n Val Me t Asp Gl u Gl n Thr Me t Val l Gl n Asp l l e Leu Leu Me t Lys Gl n Asn Asn P he Asn Al a Val Arg Cys Ser Hi s Tyr
DraIII (2126) **SspI (2166)**

2101 CCGAACCTCCGCTGTGGTACACGCTGTGCGACCCTACGGCCTGTATGTGGTGGATGAAGCCCAATATTGAAACCCACCGCATGGTGCCAATGAATCGTC
426▶ P ro Asn Hi s P ro Leu T rp Tyr Thr Leu Cys Asp Arg Tyr Gl y Leu Tyr Val Val Asp Gl u Al a Asn l l e Gl u Thr Hi s Gl y Me t Val l P ro Me t Asn Arg L
BsaBI (2262)

2201 TGACCGATGATCCGCGCTGGCTACCGGCGATGAGCGAACGCGTAACGCGAATGGTGCAGCGCGATCGTAATCACCCGAGTGTGATCATCTGGTCGCTGGG
459▶ e Thr Asp Asp P ro Arg T rp Leu P ro Al a Me t Ser Gl u Arg Val l Thr Arg Me t Val l Gl n Arg Asp Arg Asn Hi s P ro Ser Val l l e l l e T rp Ser Leu Gl
2301 GAATGAATCAGGCCAGCGCTAATCAGCAGCGCTGATCGTGGATCAAATCTGTCGATCCTTCCCGCCGGTGCAGTATGAAGCGCGCGGAGCCGAC
492▶ y Asn Gl u Ser Gl y Hi s Gl y Al a Asn Hi s Asp Al a Leu Tyr Arg T rp l l e Lys Ser Val Asp P ro Ser Arg P ro Val l Gl n Tyr Gl u Gl y Gl y Al a Asp
BssHIII (2434) **BbsI (2453)**

2401 ACCACGGCCACCGATATTATTTGCCGATGTACGCGCGCTGGATGAAGACCAGCCCTTCCCGCTGTGCGGAAATGGTCCATCAAAAAATGGCTTTCG
526▶ Thr Thr Al a Thr Asp l l e l l e Cys P ro Me t Tyr Al a Arg Val Asp Gl u Asp Gl n P ro P he P ro Al a Val l P ro Lys T rp Ser l l e Lys Lys T rp Leu Ser L
2501 TACCTGGAGAGACGCGCCGCTGATCCTTTGCGAATACGCCACGCGATGGGTAAACAGTCTTGGCGGTTTCGCTAAATACTGGCAGGCGTTTCGTCAGTA
559▶ e U P ro Gl y Gl u Thr Arg P ro Leu l l e Leu Cys Gl u Tyr Al a Hi s Al a Me t Gl y Asn Ser Leu Gl y Gl y P he Al a Lys Tyr T rp Gl n Al a P he Arg Gl n Ty
2601 TCCCGTTTACAGGGCGGCTTCTGTGGACTGGTGGATCAGTCGCTGATTAATATGATGAAAACGGCAACCCGTTGCTGCGCTTACGGCGGTGATTTT
592▶ r P ro Arg Leu Gl n Gl y Gl y P he Val l T rp Asp T rp Val Asp Gl n Ser Leu l l e Lys Tyr Asp Gl u Asn Gl y Asn P ro T rp Ser Al a Tyr Gl y Gl y Asp P he
Eco47III (2771)

2701 GCGATACGCCAACGATCGCCAGTTCTGTATGAACGGTCTGGCTTTTCCGACCGCACGCGCATCCAGCGTACGGAAGCAAAAACACCGAGCAGCAGT
626▶ Gl u Asp Thr P ro Asn Asp Ara Gl n P he Cvs Me t Asn Gl v Leu Val l P he Al a Asp Ara Thr P ro Hi s P ro Al a Leu Thr Gl u Al a Lvs Hi s Gl n Gl n P

SacI (2876)

2801 TTTCCAGTTCGTTTATCCGGGCAAACCATCGAAGTGACCAGCGAATACCTGTTCCGTCATAGCGATAACGAGCTCCTGCACCTGGATGGTGGCGCTGGA
659▶ hePheGlnPheArgLeuSerGlyGlnThrIleGluValThrSerGluTyrLeuPheArgHisSerAspAsnGluLeuLeuHisTrpMetValAlaLeuAs
2901 TGGTAAGCCGCTGGCAAGCGGTGAAGTGCTCTGGATGTCGCTCCACAAGGTAACAGTTGATTGAACTGCCTGAACTACCGCAGCCGGAGAGCGCCGGG
692▶ pGlyLysProLeuAlaSerGlyGluValProLeuAspValAlaProGlnGlyLysGlnLeuIleGluLeuProGluLeuProGlnProGluSerAlaGly
3001 CAACTCTGGCTCACAGTACGCTAGTGCAACCGAACCGCACCCTGGTCTCAGAAGCCGGGCACATCAGCGCCTGGCAGCAGTGGCGTCTGGCGGAAAACC
726▶ GlnLeuTrpLeuThrValArgValValGlnProAsnAlaThrAlaTrpSerGluAlaGlyHisIleSerAlaTrpGlnGlnTrpArgLeuAlaGluAsnL
3101 TCAGTGTGACGCTCCCGCCGCTCCACGCCATCCCGCATCTGACCACCAGCGAAATGGATTTTGCATCGAGCTGGGTAATAGCGTTGGCAATTTAA
759▶ euSerValThrLeuProAlaAlaSerHisAlaIleProHisLeuThrThrSerGluMetAspPheCysIleGluLeuGlyAsnLysArgTrpGlnPheAs
3201 CCGCCAGTCAGGCTTTCTTTCACAGATGTGGATTGGCGATAAAAAACACTGCTGACGCCGCTGCGCGATCAGTTCACCCGTGCACCGCTGGATAACGAC
792▶ nArgGlnSerGlyPheLeuSerGlnMetTrpIleGlyAspLysLysGlnLeuLeuThrProLeuArgAspGlnPheThrArgAlaProLeuAspAsnAsp
3301 ATTTGGCGTAAGTGAAGCGACCCGATTGACCCTAACGCCTGGGTCGAACGCTGGAAGCGCGGGGCCATTACCAGGCCGAAGCAGCGTTGTTGCAGTGCA
826▶ IleGlyValSerGluAlaThrArgIleAspProAsnAlaTrpValGluArgTrpLysAlaAlaGlyHisTyrGlnAlaGluAlaLeuLeuGlnCysT
3401 CGGCAGATACACTTGCTGATGCGGTGCTGATTACGACCCTCACGCGTGGCAGCATCAGGGGAAAACCTATTATCAGCCGAAAACCTACCGGATTGA
859▶ hrAlaAspThrLeuAlaAspAlaValLeuIleThrThrAlaHisAlaTrpGlnHisGlnGlyLysThrLeuPheIleSerArgLysThrTyrArgIleAs
3501 TGGTAGTGGTCAAATGGCGATTACCGTTGATGTTGAAGTGGCGAGCGATACACCGCATCCGGCGCGGATTGGCCCTGAACTGCCAGCTGGCGCAGGTAGCA
892▶ pGlySerGlyGlnMetAlaIleThrValAspValGluValAlaSerAspThrProHisProAlaArgIleGlyLeuAsnCysGlnLeuAlaGlnValAla

Bst1107I

BspLU11I (3695)

3601 GAGCGGGTAAACTGGCTCGGATTAGGGCCGAAGAAAACCTATCCCGACCCTTACTGCGCCTGTTTTGACCCTGGGATCTGCCATTGTCAGACATGT
926▶ GluArgValAsnTrpLeuGlyLeuGlyProGlnGluAsnTyrProAspArgLeuThrAlaAlaCysPheAspArgTrpAspLeuProLeuSerAspMet

BbsI (3705)

BsiWI (3706)

3701 ATACCCGTACGCTTCCCGAGCGAAAACGGTCTGCGTGGGACGCGCAATTGAATTATGGCCACACCAGTGGCGCGGCGACTTCCAGTTCACAT
959▶ yrThrProTyrValPheProSerGluAsnGlyLeuArgCysGlyThrArgGluLeuAsnTyrGlyProHisGlnTrpArgGlyAspPheGlnPheAsnIle

NdeI (3893)

3801 CAGCCGCTACAGTCAACGCAACTGATGAAAACAGCCATCGCCATCTGCTGCACGCGGAAGAAGGCACATGGCTGAATATCGACGGTTCCATATGGGG
992▶ eSerArgTyrSerGlnGlnGlnLeuMetGluThrSerHisArgHisLeuLeuHisAlaGluGluGlyThrTrpLeuAsnIleAspGlyPheHisMetGly
3901 ATTTGGTGGCAGCACTCCTGGAGCCGTCAGTATCGGCGGAATTACAGCTGAGCGCCGCTCGCTACCATTACCAGTTGGTCTGGTGTCAAAAAATAAAT
1026▶ IleGlyGlyAspAspSerTrpSerProSerValSerAlaGluLeuGlnLeuSerAlaGlyArgTyrHisTyrGlnLeuValTrpCysGlnLys●●●

EcoRI (4009)

4001 CTAGTCGAGAATTCGCTAGCTCGACATGATAAGATACATTGATGAGTTTGGACAAACCACAAC TAGAATGCAGTGAATAAATGCTTTATTTGTGAAATT

MfeI (4189)

4101 TGTGATGCTATTGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAACAACAACAAATTGCATTCA

DraI (4277)

SwaI (4280)

DraI (4238)

4201 TTTTATGTTTCAGGTTTCAGGGGGAGGTGTGGGAGGTTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTAGATCCATTTAAATGTTAATTAAGTACGCCA

4301 TGACCAAAATCCCTTAACGTGAGTTTTTCGTTCCACTGAGCGTCAGACCCCGTAGAAAAGATCAAAGGATCTTCTTGAGATCCTTTTTTCTGCGCGTAAT

4401 CTGCTGCTTGCAACAAAAAACACCCTACCAGCGGTGGTTTTGTTGCCGGATCAAGAGCTACCAACTCTTTTTCCGAAGGTAAGTGGCTTACGAGA

4501 GCGCAGATACCAAACTACTGTTCTTCTAGTGTAGCCGTAGTTAGGCCACCACTCAAGAACTCTGTAGCACCGCTACATACCTCGCTCTGCTAATCCTGT

4601 TACCAGTGGCTGCTGCCAGTGGCGATAAGTCTGTCTTACCAGGTTGGACTCAAGACGATAGTTACCGGATAAGGCGCAGCGGTGGGCTGAACGGGGG

4701 TTCGTGCACACAGCCAGCTTGGAGCGAACGACCTACCCGAAGTACAGGATACCTACAGCGTGGAGCTATGAGAAAGCGCCACGCTTCCGAAGGGAGAAAG

4801 GCGGACAGGTATCCGTAAGCGGAGGGTCCGAAACAGGAGAGCGCAGAGGGAGCTTCCAGGGGAAACGCTGGTATCTTTATAGTCTGTGCGGTTTC

4901 GCCACCTCTGACTTGAGCGTCGATTTTTGTGATGCTCGTCAGGGGGCGGAGCCTATGAAAAACGCCAGCAACGCGCCTTTTTACGGTTCCTGGCCTT

BspLU11I (5018)

AseI (5056)

5001 TTGCTGGCCTTTTGTCTCATGTTCTTAATTAATTTTTCAAAGTAGTTGACAATTAATCATCGGCATAGTATATCGGCATAGTATAATACGACTCACT

SfiI (5107)

MscI (5118)

5101 ATAGGAGGGCCATCATGGCCAAGTTGACCAGTGTCTCCAGTGTCTCACAGCCAGGGATGTGGCTGGAGCTGTTGAGTTCTGGACTGACAGGTTGGGGT

▶ MetAlaLysLeuThrSerAlaValProValLeuThrAlaArgAspValAlaGlyAlaValGluPheTrpThrAspArgLeuGlyP

5200 TCTCCAGAGATTTTGTGGAGGATGACTTTGACGGTGTGGTCAGAGATGATGTACCCTGTTTCATCTCAGCAGTCCAGGACCAGTGGTGCCTGACAACAC

29▶ heSerArgAspPheValGluAspAspPheAlaGlyValValArgAspAspValThrLeuPheIleSerAlaValGlnAspGlnValValProAspAsnTh

5300 CCTGGCTTGGGTGTGGGTGAGAGGACTGGATGAGCTGTATGCTGAGTGGAGTGGTGGTCTCCACCAACTTCAGGGATGCCAGTGGCCCTGCCATGACA

62▶ rLeuAlaTrpValTrpValArgGlyLeuAspGluLeuTyrAlaGluTrpSerGluValValSerThrAsnPheArgAspAlaSerGlyProAlaMetThr

DraIII (5468)

5400 GAGATTGGAGAGCAGCCCTGGGGAGAGAGTTGCCCTGAGAGACCCAGCAGGCAACTGTGTGCACTTTGTGGCAGAGGAGCAGGACTGAGGATAAGAAT

96▶ GluIleGlyGluGlnProTrpGlyArgGluPheAlaLeuArgAspProAlaGlyAsnCysValHisPheValAlaGluGluGlnAsp●●●

SfiI (5516)

EcoO109I (5516)

5500 TGAGTTTCAGAAAAGGGGCGCTGAGTGGCCCTTTTTTCAACTTAATTA