

150

PstI (7)
SdaI (7) SpeI (14)

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1 CCTGCAGGGCCCACTAGTTGATTTCCTTCATCCCTGGCACACGTCCAGGCAGTGTGCAATCCATCTCTGCTACAGGGGAAAACAAATAACATTGAGTCC
101 AGTGGAGACCGGGAGCAGAAGTAAAGGGAAGTGATAACCCCCAGAGCCCGGAAGCCTCTGGAGGCTGAGACCTCGCCCCCTTGCGTGATAGGGCTACG
201 GAGCCACATGACCAAGGCACTGTCCCTCCGCACGTGTGAGAGTGCAGGGCCCAAGATGGCTGCCAGGCTCGAGGCTGACTCTTCTATGCTACTTCC
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NeoI (542)

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601 AAATGGGTCGGGATCTGTACGACGATGACGATAAGGTACCTAAGGATCAGCTTGGAGTTGATCCCGTCGTTTTACAACGTCGTGACTGGGAAAACCCCTGG
20 InMetGlyArgAspLeuTyrAspAspAspAspLysValProLysAspGlnLeuGlyValAspProValValLeuGlnArgArgAspTrpGluAsnProGl
701 CGTTACCAACTTAATCGCCTTGACGACATCCCCCTTCGCGCAGCTGGCGTAATAGCGAAGAGGCCCGCACCAGTCCCCCTCCCAACAGTTGCGCAGC
53 yValThrGlnLeuAsnArgLeuAlaAlaHisProProPheAlaSerTrpArgAsnSerGluGluAlaArgThrAspArgProSerGlnGlnLeuArgSer
801 CTGAATGGGGAATGGCGCTTTCCTGGTTCCCGCACCAAGCGGTCGCGGAAAGCTGGCTGGAGTGGGATCTTCTGAGGCCGATACTGTCGCTCGCTCC
87 LeuAsnGlyGluTrpArgPheAlaTrpPheProAlaProGluAlaValProGluSerTrpLeuGluCysAspLeuProGluAlaAspThrValValP
901 CCTCAAACCTGGCAGATGCACGGTTACGATGCGCCATCTACACCAACGTAACCTATCCCATACGGTCAATCCGCGTTTGTTCACCGGAGAATCCGAC
120 roSerAsnTrpGlnMetHisGlyTyrAspAlaProIeTyrThrAsnValThrTyrProIeThrValAsnProProPheValProThrGluAsnProTh
1001 GGGTGTACTCGCTCACATTTAATGTTGATGAAAGCTGGCTACAGGAAGGCCAGACGCGAATTATTTTGTGAGCGTTAATCCGGCGTTTCATCTGTGG
153 rGlyCysTyrSerLeuThrPheAsnValAspGluSerTrpLeuGlnGlyGlnThrArgIeIePheAspGlyValAsnSerAlaPheHisLeuTrp
1101 TGCACCGCGCGCTGGGTTCGCTTACGCCAGGACAGTCTGTCCGCTGTAATTTGACCTGAGCGCATTTTTACGCGCGGAGAAAACCCGCTCGCGGTGA
187 CysAsnGlyArgTrpValGlyTyrGlyGlnAspSerArgLeuProSerGluPheAspLeuSerAlaPheLeuArgAlaGlyGluAsnArgLeuAlaValM
1201 TGGTGTCTCGTGGAGTACGGCAGTTATCTGGAAGATCAGGATATGTGGCGGATGAGCGGCATTTTCCGTCAGCTCCTGCTGCATAAACCCGACTAC
220 etValLeuArgTrpSerAspGlySerTyrLeuGluAspGlnAspMetTrpArgMetSerGlyIePheArgAspValSerLeuLeuHisLysProThrTh
1301 ACAATCAGCGATTTCCATGTTGCCACTCGCTTAAATGATGATTTACGCCGCGCTGACTGGAGGCTGAAGTTGAGTGTGGCGGAGTTGCCGACTAC
253 rGlnIeSerAspPheHisValAlaThrArgPheAsnAspAspPheSerArgAlaValLeuGluAlaGluValGlnMetCysGlyGluLeuArgAspTyr
1401 CTACGGTAACAGTTTCTTATGTCAGGGTGAACCCGAGGTCGCCAGCGGCCACCGCCCTTTCGCGGTGAAATTATCGATGAGCGTGGTGGTTATGCCG
287 LeuArgValThrValSerLeuTrpGlnGlyGluThrGlnValAlaSerGlyThrAlaProPheGlyGlyGluIeIeAspGluArgGlyGlyTyrAlaA
1501 ATCGCGTACACACTACGCTGAACGTCGAAACCCGAAACTGTGGAGCGCCGAAATCCCGAATCTCTATCGTGGCGGTGGAAGTGCACACCCGCCGACGG
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553 eLysLysTrpLeuSerLeuProGlyGluThrArgProLeuIeLeuCysGluTyrAlaHisAlaMetGlyAsnSerLeuGlyGlyPheAlaLysTyrTrp
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587 GlnAlaPheArgGlnTyrProGluLeuGlnGlyPheValTrpAspTrpValAspGlnSerLeuIeLysTyrAsnGlyAsnGlyAsnGlyAspArgTrpSerA
2401 CTTACGGCGGTGATTTTGGGATACGCCGAACGATCGCCAGTCTGTATGAACGGTCTGGTCTTTGCCGACCGCAGCCGCATCCAGCGTGCAGGAAGC
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720 InProGluSerAlaGlyGlnLeuTrpLeuThrValArgValValGlnProAsnAlaThrAlaTrpSerGluAlaGlyHisIeSerAlaTrpGlnGlnTr
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787 LysArgTrpGlnPheAsnArgGlnSerGlyPheLeuSerGlnMetTrpIeGlyAspLysLysGlnLeuLeuThrProLeuArgAspGlnPheThrArgA
3001 CACCGCTGGATAACGACATTGGCGTAAGTGAAGCGACCCGCTTACCCCTAACCGCTGGGTCGAACGCTGGAAGCGCGGGCCATTACAGGCCGAAGC
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3101 AGCGTTGTGACGTCAGCCGAGATACACTTGGCTGATGCTGCTGATTACGACCGCTCAGCGTGGCAGCATCAGGGGAAAACCTTATTTATCAGCCGG
853 aAlaLeuLeuGlnCysThrAlaAspThrLeuAlaAspAlaValLeuIeThrThrAlaHisAlaTrpGlnHisGlnGlyLysThrLeuPheIeSerArg
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887 LysThrTyrArgIeAspGlySerGlyGlnMetAlaIeThrValAspValGluValAlaSerAspThrProHisProAlaArgIeGlyLeuAsnCysG
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3401 GCCATTGTGACACATGTATAACCCGTCAGCTTCCCGAGCGAAAACGGTCTCGCTGCGGGACGCGGCAATTGAATTTAGCCACACCACTGGCGCGG
953 uProLeuSerAspMetTyrThrProTyrValPheProSerGluAsnGlyLeuArgCysGlyThrArgGluLeuAsnTyrGlyProHisGlnTrpArgGly
3501 GACTTCCAGTTCAACATCAGCCGCTACAGTCAACAGCAACTGATGGAACACGACCTACGCCATCTGCTGCACGCGGAAGAAGGCACATGGCTGAATATCG
987 AspPheGlnPheAsnIeSerArgTyrSerGlnGlnGlnLeuMetGluThrSerHisArgHisLeuLeuHisAlaGluGlyThrTrpLeuAsnIeA
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3601 ACGGTTTCCATATGGGGATTGGTGGCGACGACTCCTGGAGCCCGTCAGTATCGGCGGAATTACAGCTGAGCGCGGTCGCTACCATTACCAGTTGGTCTG
1020▶ spGlyPheHisMetGlyI leGlyGlyAspAspSerTrpSerProSerValSerAlaGluLeuGlnLeuSerAlaGlyArgTyrHisTyrGlnLeuValTr

EcoRI (3727)

3701 GTGTCAAAAATAATAATCTAGTCGAGAATTCGCTAGCTCGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAAAAAAT
1053▶ pCysGlnLys•••

3801 GCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAGTTAAC

3901 AACACAATTGCATTCATTTTATGTTTCAGGTTTCAGGGGGAGGTGTGGGAGGTTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTAGATCCATTTAAA

PacI (4008)

4001 TGTAAATTAAGTAGCCATGACCAAAATCCCTTAACGTGAGTTTTCGTTCCACTGAGCGTCAGACCCCGTAGAAAAGATCAAAGGATCTTCTTGAGATCCT

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4201 TAACTGGCTTCAGCAGAGCGCAGATACCAAATACTGTTCTTCTAGTGTAGCCGTAGTTAGGCCACCCTTCAAGAACTCTGTAGCACCGCTACATACT

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4601 TAGTCCTGTCGGGTTTCGCCACCTCTGACTTGAGCGTCGATTTTTGTGATGCTCGTCAAGGGGGCGGAGCCTATGAAAAACGCCAGCAACGCGGCCTTT

PacI (4748)

4701 TTACGGTTCCTGGCCTTTTGTGCGCCTTTGCTCACATGTTCTTAATTAATTTTTCAAAGTAGTTGACAATTAATCATCGGCATAGTATATCGGCATA

4801 GTATAATACGACTCACTATAGGAGGGCCATCATGGCCAAGTTGACCAGTGTCTGCCAGTGTCTCACAGCCAGGGATGTGGCTGGAGCTGTTGAGTTCTGG

1▶ MetAlaLysLeuThrSerAlaValProValLeuThrAlaArgAspValAlaGlyAlaValGluPheTrp

4901 ACTGACAGGTTGGGGTTCTCCAGAGATTTTGTGGAGGATGACTTTGCAGGTGTGGTCAGAGATGATGCACCCTGTTTCATCTCAGCAGTCCAGGACCAGG

24▶ ThrAspArgLeuGlyPheSerArgAspPheValGluAspAspPheAlaGlyValValArgAspAspValThrLeuPheI leSerAlaValGlnAspGlnV

5001 TGGTGCCTGACAACACCCTGGCTTGGGTGTGGGTGAGAGGACTGGATGAGCTGTATGCTGAGTGGAGTGGTGGTCTCCACCACTCAGGGATGCCAG

57▶ alValProAspAsnThrLeuAlaTrpValTrpValArgGlyLeuAspGluLeuTyrAlaGluTrpSerGluValValSerThrAsnPheArgAspAlaSe

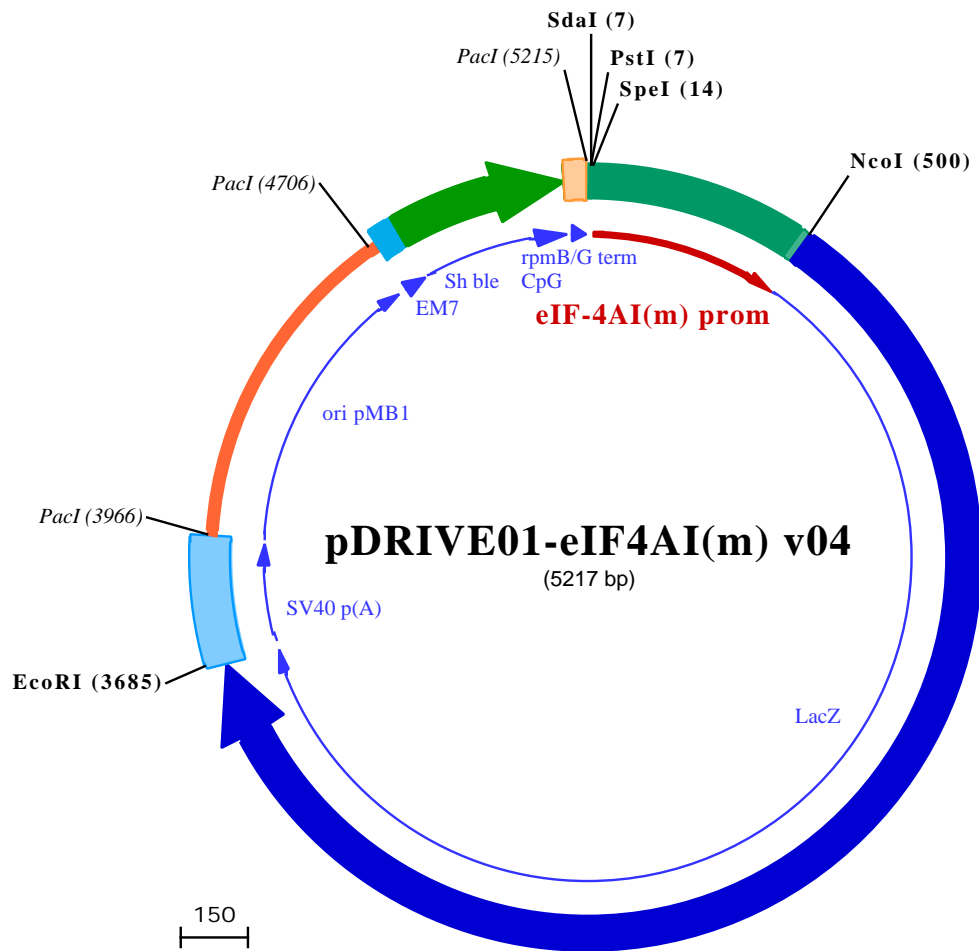
5101 TGGCCCTGCCATGACAGAGATTGGAGAGCAGCCCTGGGGGAGAGAGTTTGCCTGAGAGACCAGCAGGCAACTGTGTGCACTTTGTGGCAGAGGAGCAG

90▶ rGlyProAlaMetThrGluI leGlyGluGlnProTrpGlyArgGluPheAlaLeuArgAspProAlaGlyAsnCysValHisPheValAlaGluGluGln

PacI (5257)

5201 GACTGAGGATAAGAATTGTAACAAAAACCCCGCCCGCGGGGTTTTTTGTTAATTAA

124▶ Asp•••



EcoRI (3685)

3601 CGTCAGTATCGGCGGAATTACAGCTGAGCGCCGGTGCCTACCATTACCAGTTGGTCTGGTGTCAAAAATAATAATCTAGTCGAGAATTCGCTAGCTCGAC
1034▶ roSerValSerAlaGluLeuGlnLeuSerAlaGlyArgTyrHisTyrGlnLeuValTrpCysGlnLys•••

3701 ATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTGA
3801 AATTTGTGATGCTATTGCTTTATTTGTAAACCATTATAAGCTGCAATAAAACAAGTTAAACAACAACAATTGCATTTCATTTTATGTTTCAGGTTCCAGGGGAG

PacI (3966)

3901 GTGTGGGAGGTTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTAGATCCATTTAAATGTTAATTAAGTCCATGACCAAAATCCCTAACGTGAGTT
4001 TTCGTTCCACTGAGCGTCAGACCCCGTAGAAAAGATCAAAGGATCTTCTTGAGATCCTTTTTTCTGCGCGTAATCTGCTGCTTGCAAAACAAAAACCA
4101 CCGCTACCAGCGGTGGTTGTTTGC CGGATCAAGAGCTACCAACTCTTTTTCCGAAGGTAACCTGGCTTCAGCAGAGCGCAGATACCAAATACTGTTCTTC
4201 TAGTGTAGCCGTAGTTAGGCCACCACTTCAAGAACTCTGTAGCACCGCTACATACCTCGCTCTGCTAATCCTGTTACCAGTGGCTGCTGCCAGTGGCGA
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4401 CGAACGACCTACACCGAACTGAGATACCTACAGCGTGAGCTATGAGAAAAGCGCCACGCTTCCCGAAGGGAGAAAGGCGGACAGGTATCCGGTAAGCGGCA
4501 GGGTCGGAAACAGGAGAGCGCACGAGGGAGCTTCCAGGGGAAACGCCTGGTATCTTTATAGTCTGTGCGGTTTCGCCACCTTGACTTGAGCGTTCGATT
4601 TTTGTGATGCTCGTCAGGGGGCGGAGCCTATGGAAAAACGCCAGCAACGCGGCCTTTTTACGGTTCCTGGCCTTTTGTGGCCTTTTGCTCACATGTTCC

PacI (4706)

4701 TTAATTAATTTTTCAAAAGTAGTTGACAATTAATCATCGGCATAGTATATCGGCATAGTATAATACGACTCACTATAAGGAGGGCCATCATGGCCAAGTT
▶ 1▶ MetAlaLysLe

4801 GACCAGTGCTGTCCAGTGCTCACAGCCAGGGATGTGGCTGGAGCTGTTGAGTTCTGGACTGACAGGTTGGGTTCTCCAGAGATTTGTGGAGGATGAC
4▶ uThrSerAlaValProValLeuThrAlaArgAspValAlaGlyAlaValGluPheTrpThrAspArgLeuGlyPheSerArgAspPheValGluAspAsp
4901 TTTGCAGGTGTGGTCAGAGATGATGTCACCTGTTTCATCTCAGCAGTCCAGGACCAGGTGGTGCCTGACAACACCTGGCTTGGGTGTTGGGTGAGAGGAC
38▶ PheAlaGlyValValArgAspAspValThrLeuPheIleSerAlaValGlnAspGlnValValProAspAsnThrLeuAlaTrpValTrpValArgGlyL
5001 TGGATGAGCTGTATGCTGAGTGGAGTGGTGGTCTCCACCAACTTCAGGGATGCCAGTGGCCCTGCCATGACAGAGATTGGAGAGCAGCCCTGGGGGAG
71▶ euAspGluLeuTyrAlaGluTrpSerGluValValSerThrAsnPheArgAspAlaSerGlyProAlaMetThrGluIleGlyGluGlnProTrpGlyAr
5101 AGAGTTTCCCCTGAGAGACCCAGCAGGCAACTGTGTGCACCTTTGTGGCAGAGGAGCAGGACTGAGGATAAGAATTGTAACAAAAACCCCGCCCGGGCG
104▶ gGluPheAlaLeuArgAspProAlaGlyAsnCysValHisPheValAlaGluGluGlnAsp•••

PacI (5215)

5201 GGTTTTTGTTAATTA
▶