



3401 AATACGCCACGCGATGGGTAACAGTCTTGGCGGTTTCGCTAAATACTGGCAGCGTTCCTGTCAGTATCCCGTTTACAGGGCGGCTTCGTCTGGGACTG
570 I u TyrAl aHi sAl aMetGl yAsnSer LeuGl yGl yPheAl aLysTyrTrpGl nAl aPheArgGl nTyrProArgLeuGl nGl yGl yPheVal T rpAspTr
3501 GGTGGATCAGTCGCTGATTAATATGATGAAAACGGCAACCCGTTGGTCGGCTTACGGCGGTGATTTTGGCGATACGCCAACGATCGCCAGTTCTGTATG
603 pVal AspGl nSer LeuI l eLysTyrAspGl uAsnGl yAsnP r oTrpSer Al aTyrGl yGl yAspPheGl yAspThr P r oAsnAspArgGl nPheCysMet
3601 AACGGTCTGGTCTTTGGCGACCGCACGCCGATCCAGCTGACGCGAAGCAAACACAGCAGCAGTTCCTCCAGTTCCTGTTTATCCGGGCAAAACCATCG
637 AsnGl yLeuVal PheAl aAspArgThr P r oHi sP r oAl aLeuThr Gl uAl aLysHi sGl nGl nGl nPhePheGl nPheArgLeuSer Gl yGl nThr I l eG
3701 AAGTGACCAGCAATACCTGTTCCGTCATAGCGATAACGAGCTCCTGCAGCTGGATGGTGGCGCTGGATGGTAAGCCGCTGGCAAGCGGTGAAGTGCCCT
670 I uVal Thr Ser Gl uTyrLeuPheArgHi sSerAspAsnGl uLeuLeuHi sTrpMe tVal Al aLeuAspGl yLysP r oLeuAl aSer Gl yGl uVal P r oLe
3801 GGATGTCGCTCCACAAGGTAACAGTTGATTGAACCTGCCTGAACCTACCGCAGCCGAGAGCGCGGGCAACTCTGGCTCACAGTACCGCTGATGCAACCG
703 uAspVal Al aP r oGl nGl yLysGl nLeuI l eGl uLeuP r oGl uLeuP r oGl nP r oGl uSer Al aGl yGl nLeuTrpLeuThr Val A r gVal Val Gl nP r o
3901 AACGCGACCCGATGGTCAGAAGCCGGGCACATCAGCGCTGGCAGCAGTGGCGTCTGGCGGAAAACCTCAGTGTGACGCTCCCGCCGCGTCCCACGCCA
737 AsnAl aThr Al aT r pSer Gl uAl aGl yHi sI l eSer Al aT r pGl nGl nT r pArgLeuAl aGl uAsnLeuSer Val Thr LeuP r oAl aAl aSer Hi sAl aI
4001 TCCCGCTGCTCCACAGCGAAATGGATTTTTCAGCTGAGCTGGTAATAGCGTTCGCAATTTAACCGCAGTCAGGCTTCTTCCAGATGCGATGCAACCG
770 I eP r oHi sLeuThr Thr Ser Gl uMe tAspPheCysI l eGl uLeuGl yAsnLysArgT r pGl nPheAsnArgGl nSer Gl yPheLeuSer Gl nMe tTrpI l
4101 TGGCGATAAAAAACAACTGCTGACGCCGCTGCGGATCAGTTACCCGCTGACCGCTGGATAACGACATTGGCGTAAGTGAAGCGACCCGATTGACCCCT
803 eGl yAspLysLysGl nLeuLeuThr P r oLeuArgAspGl nPheThr ArgAl aP r oLeuAspAsnAspI l eGl yVal Ser Gl uAl aThr ArgI l eAspP r o
4201 AACGCTGGGTCGAACGCTGGAAGCGGCGGCCATTACAGCCGAGCGGCTGTTGTCAGTGGCGAGTACAGCGGAGTACAGCGGCTGATGCGGCTGATTA
837 AsnAl aT r pVal Gl uArgT r pLysAl aAl aGl yHi sTyrGl nAl aGl uAl aAl aLeuLeuGl nCysThr Al aAspThr LeuAl aAspAl aVal LeuI l eT
4301 CGACCGCTCAGCGTGGCAGCATCAGGGGAAAACCTTATTTATCAGCGGAAAACCTACCGGATTGATGGTAGTGGTCAAATGGCGATTACCGTTGATGT
870 hr Thr Al aHi sAl aT r pGl nHi sGl nGl yLysThr LeuPheI l eSer ArgLysThr TyrArgI l eAspGl ySer Gl yGl nMe tAl aI l eThr Val AspVa
4401 TGAAGTGGCGAGCATACACCGCATCCGGCGGATTGGCTGAACCTGACGCTGGCGAGGTAGCAGAGCGGGTAAACTGGCTCGGATAGGGCCGCAA
903 I Gl uVal Al aSerAspThr P r oHi sP r oAl aArgI l eGl yLeuAsnCysGl nLeuAl aGl nVal Al aGl uArgVal AsnTrpLeuGl yLeuGl yP r oGl n
BspLU11I (4562)
4501 GAAAACATCCGACCGCCTTACTGCCGCTGTTTTGACCGCTGGGATCTGCCATGTAGACATGTATACCCCGTACGCTTCCCGAGCGAAAACGGTC
937 Gl uAsnTyrP r oAspArgLeuThr Al aAl aCysPheAspArgT r pAspLeuP r oLeuSerAspMe tTyrThr P r oTyrVal PheP r oSer Gl uAsnGl yL
4601 TGGCTGCGGGACGCGCAATTGAATTATGGCCACACAGTGGCGGCGACTCCAGTTCAACATCAGCCGCTACAGTCAACAGCAACTGATGAAAC
970 euArgCysGl yThr ArgGl uLeuAsnTyrGl yP r oHi sGl nT r pArgGl yAspPheGl nPheAsnI l eSer ArgTyrSer Gl nGl nGl nLeuMe tGl uTh
4701 CAGCCATCGCATCTGCTGCACGCGGAAGAAGGCACATGGCTGAATATCGACGGTTCATATGGGGATTGGTGGCGAGACTCCTGGAGCCCGTCAGTA
1003 r Ser Hi sArgHi sLeuLeuHi sAl aGl uGl uGl yThr T r pLeuAsnI l eAspGl yPheHi sMe tGl yI l eGl yGl yAspAspSer T r pSer P r oSer Val
NheI (4882)
EcoRI (4876)
4801 TCGCGGAATTACAGCTGAGCGCGGTGCTACCATTACAGTTGGTCTGGTGTCAAATAATAATCTAGTCGAGAATTCGCTAGCTCGCATGATAAG
1037 Ser Al aGl uLeuGl nLeuSer Al aGl yA r gTyrHi sTyrGl nLeuVal T r pCysGl nLys●●●
4901 ATACATTGATGATTTGGACAAACCACAAC TAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTGAAATTTGTG
ATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAACAAACAACAATTGCATTCATTTATGTTTCAGGTTACAGGGGAGGTGTGGGA
PacI (5157)
SwaI (5147)
5101 GGTTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTAGATCCATTTAAATGTTAATTAAGTACCCATGACCAAAATCCCTTAACGTGAGTTTTCGTTCC
ACTGAGCGTCAGACCCCGTAGAAAAGATCAAAGGATCTTCTTGAGATCCTTTTTTCTGCGCGTAATCTGCTGCTTGCAAAACAAAAAACACCGCTACC
AGCGGTGGTTTGTGGCCGATCAAGAGCTACCAACTCTTTTTCCGAAGGTAAGTGGCTTACGAGAGCGCAGATACCAAATACTGTTCTCTAGTGTAG
CCGTAGTTAGCCACCACCTCAAGAACTCTGTAGCACCGCTACATACTCGCTCTGCTAATCTGTTACCAAGTGGCTGCTGCCAGTGGCGATAAGTCTGT
GTCTTACCGGTTGGACTCAAGACGATAGTTACCGGATAAGGCGCAGCGGTGGGCTGAACGGGGGTTCTGTGCACACAGCCAGCTTGGAGCGAACGAC
CTACACCGAACTGAGATACTACAGCGTGAGCTATGAGAAAGCGCCACGCTTCCGAAAGGAGAAAGCGGACAGGTATCCGGTAAGCGGACGGTCTCGGA
ACAGGAGAGCGCAGGAGGAGCTTCCAGGGGAAACGCCTGGTATCTTTATAGTCTGTGGGTTTTGCCACCTCTGACTTGAGCGTGCATTTTTGTGAT
PacI (5897)
BspLU11I (5885)
5801 GCTCGTCAGGGGGCGGAGCCTATGAAAAACGCCAGCAACGCGCCTTTTTACGGTTCTGCGCTTTTGTGCGCTTTTGTCCACATGTTCTTAATTA
AseI (5923)
5901 ATTTTTCAAAGTAGTTGACAATTAATCATCGGCATAGTATATCGGCATAGTATAATACGACTCACTATAGGAGGGCCATCATGGCCAAGTTGACCAGT
1 MetAl aLysLeuThr Ser A
6001 CTGTCCAGTGTCTACAGCCAGGGATGTGGCTGGAGCTGTTGAGTTCTGGACTGACAGTTGGGGTCTCCAGAGATTTGTGGAGGATGACTTTGCAGG
7 I aVal P r oVal LeuThr Al aArgAspVal Al aGl yAl aVal Gl uPheT r pThr AspArgLeuGl yPheSer ArgAspPheVal Gl uAspAspPheAl aGl
6101 TGTGGTCAGAGATGATGTACCCTGTTCTATCTCAGCAGTCCAGGACAGGTGGTGCCTGACAACACCTGGCTTGGGTGTGGGTGAGAGGACTGGATGAG
40 yVal Val A r gAspAspVal Thr LeuPheI l eSer Al aVal Gl nAspGl nVal Val P r oAspAsnThr LeuAl aT r pVal T r pVal A r gGl yLeuAspGl u
6201 CTGTATGCTGAGTGGAGTGGTGTCTCCACCAACTTCAGGGATGCCAGTGGCCCTGCCATGACAGAGATTGGAGAGCAGCCCTGGGGAGAGAGTTTG
74 LeuTyrAl aGl uT r pSer Gl uVal Val Ser Thr AsnPheArgAspAl aSer Gl yP r oAl aMe tThr Gl uI l eGl yGl uGl nP r oT r pGl yArgGl uPheA
6301 CCCTGAGAGACCCAGCAGGCAACTGTGTGCACTTTGTGGCAGAGGAGCAGGACTGAGGATAAGAAATTGAGTTTCAGAAAAGGGGCTGAGTGGCCCTT
107 I aLeuArgAspP r oAl aGl yAsnCysVal Hi sPheVal Al aGl uGl uGl nAsp●●●
PacI (6413)
6401 TTTTCAACTTAATTA