

> XUT0741

GCCGGCCCGCTATATTTTGGTTTTAGATCCTGTCAATACTGAGTTCATCTTTTCATTTTCTCAATATAACATTACCGTTATCTC  
CCTTATACTTCTCAAAATCCCATCTACGGAACCCCTGATCAAGCCCTGAGAACTATATGAGGGTGTGTACATTGCAGTGCATC  
ATTTGTGAGGGTTCAATAATTGAAATTATAGGGTGGACGTCAAGACGAAAAGTAAAAATTACATCCGTATAGAATTATATAA  
CTTGATGAGATGAGATGAGTAAATGACAGAAGAATTACCGTTTCATCATTGAACTTCGATCATTTCAATGCTGGCATGCCAAG  
GAAAATGAGAAATATCGAGGGAGACGATTCAGAGGAGCAGGACAACTATAACCGACTGTTTGGTGGAGGATGCCGTACATAA  
CGAACACTGCTGAAGCTACCATGCTACAGTTTACAGGAATGGGTACAACCTCACAGGCGAGGGATGGTGTTCACTCGTGCTAG  
CAAACGCGGTGGGAGCAAAAAGTAGAATATTATCTTTTATTTCGTGAACTTCGAACACTGTTCATCTAAAGATGCTATATACTA  
ATATAGGCATACTTGATAATGAAAACTATAAATCGTAAAGACATAAGAGATCCGCTTATTTAGAAGTGTCAACAACGTATCTA  
CCAGCAATTTGGCCCTTCTCCATCTTTTCGTAAATTTCTGGTAAACTGGATAAGCCAACTACCTTTATTGGAGACTTGACTAG  
ACCTCTGGCAAAGAAATCTAAGGCTTCTCTGGTATCAGCTCTGTTCCCCACGTAAGAGCCGACAATGGAGATAGACTTGACAA  
CGTGGTTGAAGACATCAGAGGAGCACTTTGCACCGGCTGGCAAACCAACCAAGACAACAGTACCGTTTCGCCCTACAGTATCTG  
GTAGAAGCTTCGATAGCGGCTTCGGAACGGAACATTTGATGATACCGTGGGCACCGCGTGGTAGCCTTAACGACTGCGCT  
AACATGTCTTCTCTTTGGTGAAGTCGATGAATACTTCACCACCGAGCGAGGTAAACAATTCTTCCTTTCTTGACCACCAT  
CAATACCTAAGACTCTGTAACCCATCGCCTTAGCATATTGAACAGCCAAAGAACCTAGACCACCAGCAGCACCAGAAATGGCC  
GCCAGTGGCCCTGCCTCAAGTTGGCAGACTTCAAAGCCTTGTATACGGTGATACCAGCACACAAGATTGGCGGACTTCAGC  
CAAGTCAGTACCTTGAGGAATGTGAGCGGCTTGAACAGCGTCAGCGGTAGCGTATTCTTGAAAGAACCGTTCGTGGGTGTAAC  
CAGACAAGTCAGCGTGAGGACAGTTGGATTTCGTTACCAATTCACAGTATTACAGGCCATACAAGAACCGTTCAACCATTTG  
ATACCGGCGTAGTCACCGATCTTCCAGCCCTTAACGTTTTACCCATGCCGACAACGACACCGGCACCTTCGTGACCACCAAC  
TAATGGTAACTTAGTTGGCAATGGCCAGTCACCATGCCAAGCGTGCAAAATCGGTGTGGCAGACACCAGACTTGTGACGTTGA  
TTAACAATTCGTTGGGCTTTGGCTTTGGAACGGGATATCCTTATGCTCCAACCTTGCCGTTGGATTTCGTAGAAGATAATGGCT  
TTTTGAGTTTCTGGAATAGACATTGTGTATTACGATATAGTTAATAGTTGATAGTTGATTGTATGCTTTTTGTAGCTTGATAT  
TCTATTTACCAAGAAGAAACAAGAAGTGATAAAAACAACAAGAGAGCAGTAGTAAGAGTATTTTCGAGTGTAAAAAAGTCGCT  
ACTGGCACTCTATTTATATGTGATAGGCATGCTATAGCTTTACCAAAAAGTGAACCCATTTCTATGCTCTCCTCTGCCTTTT  
TTTTTTTTTTTTTTTTTTCATTCTCTCAATCTGAAATTCCTTATTTTCTCCAACCTATAAGTTGGAGATGCCGGC

Color code

Black = *XUT0741* sequence

Grey = flanking sequences used for the integration by homologous recombination  
(*NaeI* sites underlined)

Yellow = *XUT0741* smORF

Red = in-frame stop codons

> pAM594 insert (xut0741-a)

GCCGGCCCGCTATATTTTGGTTTTAGATCCTGTCAATACTGAGTTCATCTTTTCATTTTCTCAATATAACATTACCGTTATCTC  
CCTTATACTTCTCAAATTCATCTACGGAACCCCTGATCAAGCCCTGAGAACTATATGAGGGTGTGTACATTGCAGTGCATC  
ATTTGTGAGGGTTCAATAATTGAAATATAGGGTGGACGTCAAGACGAAAAGTAAAAATTACATCCGTATAGAATTATATAA  
CTTGATGAGATGAGATGAGTAAATGACAGAAGAATTACCGTTTCATCATTGAACTTCGATCATTTCAATGCTGGCATGCGAAG  
GAAAATGAGAAATATCGAGGGAGACGATTCAGAGGAGCAGGACAAACTATAACCGACTGTTTGTGGAGGATGCCGTACATAA  
CGAACACTGCTGAAGCTACCATGTCTACAGTTgAGAGGAATGGGTACAACCTCACAGGCGAGGGATGGTGTCACTCGTGCgAG  
CAAACGCGGTGGGAGCAAAAAGTAGAATATTATCTTTTATTTCGTGAACTTCGAACACTGTCTATAAGATGCTATATACcA  
ATATAGGCATACTgGAcAAgGAAAACTAcaaATCGTAAAGACAcaaGAGATCCGCTTATTTAGAAGTGTCAACAACGTATCTA  
CCAGCAATTTGGCCCTTCTCCATCTTTTCGTAAATTTCTGGcaaACTGGAcaaGCCAACTACCTTTATTGGAGACTTGACgAG  
ACCTCTGGCAAAGAAATCTAAAGGCTTCTCTGGTATCAGCTCTGTTCCCCACGTAAGAGCCGACAATGGAGATAGACTTGACAA  
CGTGGTTGAAGACATCAGAGGAGCACTTTGCACCGGCTGGCAAACCAACCAAGACAACAGTACCGTTTCGCCCTACAGTATCTG  
GTAGAAGCTTCGATAGCGGCTTCGGAACGGAACATTTGATGATACCGTGGGCACCGCGTGGTAGCCTTAACGACTGCGCT  
AACATGTCTTCTCTTTGGTGAAGTCGATGAATACTTCACCACCGAGCGAGGTAAACAATTTCTTCCTTTCCTGGACCACCAT  
CAATACCFAAGACTCTGTAACCCATCGCCTTAGCATATTTGAACAGCCAAAGAACCtagACCACCAGCAGCACCAGAAATGGCC  
GCCAGTGGCCTGCTCTCAAGTTGGCAGACTTCAAAGCCTTGTATACGGTGATACCAGCACACAAGATTGGCGGACTTCAGC  
CAAGTCAGTACCTTGAGAAATGTGAGCGGCTTGAACAGCGTCAGCGGTAGCGTATTCTTGAAAGAACCCTCGTGGGTGTAAC  
CAGACAAGTCAGCGTGAGGACAGTTGGATTCTGTTACCAATTCACAGTATTCACAGGCCATACAAGAACCCTTCAACCATTTG  
ATACCGGCGTAGTCACCGATCTTCCAGCCCTTAACGTTTTTACCCATGCCGACAACGACACCGGCACCTTCGTGACCACCAAC  
TAA TGGFAA CTTAGTTGGCAATGGCCAGTCACCATGCCAAGCGTGCAAAATCGGTGTGGCAGACACCAGAGTACTTGACGTGA  
TFAACAATTCGTTGGGCTTTGGCTTTGGAAGTGGGATATCCTTATGCTCCAACCTTGCCGTTGGATTCTGAGAAGATAATGGCT  
TTTTGAGTTTCTGGAATAGACATTTGTATTACGATATAGTFAATAGTTGATAGTTGATTGTATGCTTTTTTGTAGCTTGA TAT  
TCTATTTACCAAGAAGAAACAAGAAGTGATAAAAACAACAAGAGAGCAGTAGTAAGAGTATTTTCGAGTGTAAAAAAGTCGCT  
ACTGGCACTCTATTTATATGTGATAGGCATGCTATAGCTTTACCAAAAAGTGAACCCATTTCTATGCTCTCCTCTGCCTTTT  
TTTTTTTTTTTTTTTTTCATTCTCTCAATCTGAAATTCCTTATTTTCTCCAACCTATAAGTTGGAGATGCCGGC

> pAM596 insert (xut0741-b)

GCCGGCCCGCTATATTTTGGTTTTAGATCCTGTCAATACTGAGTTCATCTTTTCATTTTCTCAATATAACATTACCGTTATCTC  
CCTTATACTTCTCAAATTCATCTACGGAACCCCTGATCAAGCCCTGAGAACTATATGAGGGTGTGTACATTGCAGTGCATC  
ATTTGTGAGGGTTCAATAATTGAAATATAGGGTGGACGTCAAGACGAAAAGTAAAAATTACATCCGTATAGAATTATATAA  
CTTGATGAGATGAGATGAGTAAATGACAGAAGAATTACCGTTTCATCATTGAACTTCGATCATTTCAATGCTGGCATGCGAAG  
GAAAATGAGAAATATCGAGGGAGACGATTCAGAGGAGCAGGACAAACTATAACCGACTGTTTGTGGAGGATGCCGTACATAA  
CGAACACTGCTGAAGCTACCATGTCTACAGTTgAGAGGAATGGGTACAACCTCACAGGCGAGGGATGGTGTCACTCGTGCgAG  
CAAACGCGGTGGGAGCAAAAAGTAGAATATTATCTTTTATTTCGTGAACTTCGAACACTGTCTATAAGATGCTATATACcA  
ATATAGGCATACTgGAcAAgGAAAACTAcaaATCGTAAAGACAcaaGAGATCCGCTTATTTAGAAGTGTCAACAACGTATCTA  
CCAGCAATTTGGCCCTTCTCCATCTTTTCGTAAATTTCTGGcaaACTGGAcaaGCCAACTACCTTTATTGGAGACTTGACgAG  
ACCTCTGGCAAAGAAATCTAAAGGCTTCTCTGGTATCAGCTCTGTTCCCCACGTAAGAGCCGACAATGGAGATAGACTTGACAA  
CGTGGTTGAAGACATCAGAGGAGCACTTTGCACCGGCTGGCAAACCAACCAAGACAACAGTACCGTTTCGCCCTACAGTATCTG  
GTAGAAGCTTCGATAGCGGCTTCGGAACGGAACATTTGATGATACCGTGGGCACCGCGTGGTAGCCTTAACGACTGCGCT  
AACATGTCTTCTTTGGTGAAGTCGATGAATACTTCACCACCGAGCGGTAACAATTTCTTCCTTTCCTGGACCACCAT  
CAATACCFAAGACTCTGTAACCCATCGCCTTAGCATATTTGAACAGCCAAAGAACCtagACCACCAGCAGCACCAGAAATGGCC  
GCCAGTGGCCTGCTCTCAAGTTGGCAGACTTCAAAGCCTTGTATACGGTGATACCAGCACACAAGATTGGCGGACTTCAGC  
CAAGTCAGTACCTTGAGGAATGTGAGCGGCTTGAACAGCGTCAGCGGTAGCGTATTCTTGAAAGAACCCTCGTGGGTGTAAC  
CAGACAAGTCAGCGTGAGGACAGTTGGATTCTGTTACCAATTCACAGTATTCACAGGCCATACAAGAACCCTTCAACCATTTG  
ATACCGGCGTAGTCACCGATCTTCCAGCCCTTAACGTTTTTACCCATGCCGACAACGACACCGGCACCTTCGTGACCACCAAC  
TAA TGGFAA CTTAGTTGGCAATGGCCAGTCACCATGCCAAGCGTGCAAAATCGGTGTGGCAGACACCAGAGTACTTGACGTGA  
TFAACAATTCGTTGGGCTTTGGCTTTGGAAGTGGGATATCCTTATGCTCCAACCTTGCCGTTGGATTCTGAGAAGATAATGGCT  
TTTTGAGTTTCTGGAATAGACATTTGTATTACGATATAGTFAATAGTTGATAGTTGATTGTATGCTTTTTTGTAGCTTGA TAT  
TCTATTTACCAAGAAGAAACAAGAAGTGATAAAAACAACAAGAGAGCAGTAGTAAGAGTATTTTCGAGTGTAAAAAAGTCGCT  
ACTGGCACTCTATTTATATGTGATAGGCATGCTATAGCTTTACCAAAAAGTGAACCCATTTCTATGCTCTCCTCTGCCTTTT  
TTTTTTTTTTTTTTTTTCATTCTCTCAATCTGAAATTCCTTATTTTCTCCAACCTATAAGTTGGAGATGCCGGC

> pAM724 insert (xut0741-c)

GCCGGCCCGCTATATTTGGTTTTAGATCCTGTCAATACTGAGTTCATCTTTTCATTTTCTCAATATAACATTACCGTTATCTC  
CCTTATACTTCTCAAATTCATCTACGGAACCCCTGATCAAGCCCTGAGAACTATATGAGGGTGTGTACATTGCAGTGCATC  
ATTTGTGAGGGTTCAATAATTGAAATATAGGGTGGACGTCAAGACGAAAAGTAAAAATTACATCCGTATAGAATTATATAA  
CTTGATGAGATGAGATGAGTAAATGACAGAAGAATTACCGTTTCATCATTGAACTTCGATCATTTCAATGCTGGCATGCGAAG  
GAAAATGAGAAATATCGAGGGAGACGATTCAGAGGAGCAGGACAAACTATAACCGACTGTTTGGTGGAGGATGCCGTACATAA  
CGAACACTGCTGAAGCTACCATGTCTACAGTTgAGAGGAATGGGTACAACCTCACAGGCGAGGGATGGTGTCACTCGTGCgAG  
CAAACGCGGTGGGAGCAAAAAGTAGAATATTATCTTTTATTCGTGAACTTCGAACACTGTCATCTAAAGATGCTATATACcA  
ATATAGGCATACTgGAcAAgGAAAACTAcaaATCGTAAAGACAcaaGAGATCCGCTTATTTAGAAGTGTCAACAACGTATCTA  
CCAGCAATTTGGCCCTTCTCCATCTTTTCGTAAATTTCTGGcaaACTGGAcaaGCCAACTACCTTTATTGGAGACTTGACgAG  
ACCTCTGGCAAAGAAATCcaaGGCTTCTCTGGTATCAGCTCTGTTCCCCACGTAAGAGCCGACAATGGAGATAGACTTGACAA  
CGTGGTTGAAGACATCAGAGGAGCACTTTGCACCGGCTGGCAAACCAACCAAGACAACAGTACCGTTTCGCCCTACAGTATCTG  
GTAGAAGCTTCGATAGCGGCTTCGGAACGGAACATTTGATGATACCGTGGGCACCGCGTGGTAGCCTTAACGACTGCGCT  
AACATGTCTTCTCTTTGGTGAAGTCGATGAATACTTCACCACCGAGCGAGGTAACAATTTCTTCCTTTCCTGGACCACCAT  
CAATACCcaaGACTCTGTAACCCATCGCCTTAGCATATTTGAACAGCCAAAGAACCgAGACCACCAGCAGCACCAGAAATGGCC  
GCCAGTGGCCTGCTCTCAAGTTGGCAGACTTCAAAGCCTTGTATACGGTGATACCAGCACACAAGATTGGCGGACTTCAGC  
LAAgTCAGTACCTTGAGAAATGTGAGCGGCTTGAACAGCGTCAGCGGTAGCGTATTCTTGAAAGAACCCTCGTGGGTGTAAC  
CAGACAAGTCAGCTGAGGACAGTTGGATTCTGTTACCAATTCACAGTATTACAGGCCATACAAGAACCCTTCAACCATTTG  
ATACCGGCGTAGTCACCGATCTTCCAGCCCTTAACGTTTTTACCCATGCCGACAACGACACCGGCACCTTCGTGACCACCAAC  
TAAgGGTAACTTAGTTGGCAATGGCCAGTCACCATGCCAAGCGTGCAAAATCGGTGTGGCAGACACCAGAGTACTTGACGTGTA  
TAAcAATTCGTTGGGCTTTGGCTTTGGAACGGGATATCCTTATGCTCCAACCTGCGGTTGGATTCTGAGAAGATAATGGCT  
TTTTGAGTTTCTGGAATAGACATTTGTATTACGATATAGTAAATAGTTGATAGTTGATTGTATGCTTTTTTGTAGCTTGAATAT  
TCTATTTACCAAGAAGAAACAAGAAGTGATAAAAACAACAAGAGAGCAGTAGTAAGAGTATTTTCGAGTGTAAAAAAGTCGCT  
ACTGGCACTCTATTTATATGTGATAGGCATGCTATAGCTTTACCAAAAAGTGAACCCATTTCTATGCTCTCCTCTGCCTTTT  
TTTTTTTTTTTTTTTTTCATTCTCTCAATCTGAAATTCCTTATTTTCTCCAACCTATAAGTTGGAGATGCCGGC

> pAM598 insert (xut0741-d)

GCCGGCCCGCTATATTTGGTTTTAGATCCTGTCAATACTGAGTTCATCTTTTCATTTTCTCAATATAACATTACCGTTATCTC  
CCTTATACTTCTCAAATTCATCTACGGAACCCCTGATCAAGCCCTGAGAACTATATGAGGGTGTGTACATTGCAGTGCATC  
ATTTGTGAGGGTTCAATAATTGAAATATAGGGTGGACGTCAAGACGAAAAGTAAAAATTACATCCGTATAGAATTATATAA  
CTTGATGAGATGAGATGAGTAAATGACAGAAGAATTACCGTTTCATCATTGAACTTCGATCATTTCAATGCTGGCATGCGAAG  
GAAAATGAGAAATATCGAGGGAGACGATTCAGAGGAGCAGGACAAACTATAACCGACTGTTTGGTGGAGGATGCCGTACATAA  
CGAACACTGCTGAAGCTACCATGTCTACAGTTgAGAGGAATGGGTACAACCTCACAGGCGAGGGATGGTGTCACTCGTGCgAG  
CAAACGCGGTGGGAGCAAAAAGTAGAATATTATCTTTTATTCGTGAACTTCGAACACTGTCATCTAAAGATGCTATATACcA  
ATATAGGCATACTgGAcAAgGAAAACTAcaaATCGTAAAGACAcaaGAGATCCGCTTATTTAGAAGTGTCAACAACGTATCTA  
CCAGCAATTTGGCCCTTCTCCATCTTTTCGTAAATTTCTGGcaaACTGGAcaaGCCAACTACCTTTATTGGAGACTTGACgAG  
ACCTCTGGCAAAGAAATCcaaGGCTTCTCTGGTATCAGCTCTGTTCCCCACGTAAGAGCCGACAATGGAGATAGACTTGACAA  
CGTGGTTGAAGACATCAGAGGAGCACTTTGCACCGGCTGGCAAACCAACCAAGACAACAGTACCGTTTCGCCCTACAGTATCTG  
GTAGAAGCTTCGATAGCGGCTTCGGAACGGAACATTTGATGATACCGTGGGCACCGCGTGGTAGCCTTAACGACTGCGCT  
AACAAATGCTTCTTTGGTGAAGTCGATGAATACTTCACCACCGAGCGAGGTAACAATTTCTTCCTTTCCTGGACCACCAT  
CAATACCcaaGACTCTGTAACCCATCGCCTTAGCATATTTGAACAGCCAAAGAACCgAGACCACCAGCAGCACCAGAAATGGCC  
GCCAGTGGCCTGCTCTCAAGTTGGCAGACTTCAAAGCCTTGTATACGGTGATACCAGCACACAAGATTGGCGGACTTCAGC  
CAAGTCAGTACCTTGAGGAATGTGAGCGGCTTGAACAGCGTCAGCGGTAGCGTATTCTTGAAAGAACCCTCGTGGGTGTAAC  
CAGACAAGTCAGCGTGAAGACAGTTGGATTCTGTTACCAATTCACAGTATTACAGGCCATACAAGAACCCTTCAACCATTTG  
ATACCGGCGTAGTCACCGATCTTCCAGCCCTTAACGTTTTTACCCATGCCGACAACGACACCGGCACCTTCGTGACCACCAAC  
TAAgGGTAACTTAGTTGGCAATGGCCAGTCACCATGCCAAGCGTGCAAAATCGGTGTGGCAGACACCAGAGTACTTGACGTGTA  
TAAcAATTCGTTGGGCTTTGGCTTTGGAACGGGATATCCTTATGCTCCAACCTGCGGTTGGATTCTGAGAAGATAATGGCT  
TTTTGAGTTTCTGGAATAGACATTTGTATTACGATATAGTAAATAGTTGATAGTTGATTGTATGCTTTTTTGTAGCTTGAATAT  
TCTATTTACCAAGAAGAAACAAGAAGTGATAAAAACAACAAGAGAGCAGTAGTAAGAGTATTTTCGAGTGTAAAAAAGTCGCT  
ACTGGCACTCTATTTATATGTGATAGGCATGCTATAGCTTTACCAAAAAGTGAACCCATTTCTATGCTCTCCTCTGCCTTTT  
TTTTTTTTTTTTTTTTTCATTCTCTCAATCTGAAATTCCTTATTTTCTCCAACCTATAAGTTGGAGATGCCGGC

> pAM723 insert (xut0741-e)

GCCGGCCCGCTATATTTGGTTTTAGATCCTGTCAATACTGAGTTCATCTTTTCATTTTCTCAATATAACATTACCGTTATCTC  
CCTTATACTTCTCAAATTCACATCTACGGAACCCCTGATCAAGCCCTGAGAACTATATGAGGGTGTGTACATTGCAGTGCATC  
ATTTGTGAGGGTTCAATAATTGAAATTATAGGGTGGACGTCAAGACGAAAAGTAAAAATTACATCCGTATAGAATTATATAA  
CTTGATGAGATGAGATGAGTAAATGACAGAAGAATTACCGTTTCATCATTGAACTTCGATCATTTCAATGCTGGCATGCGAAG  
GAAAATGAGAAATATCGAGGGAGACGATTCAGAGGAGCAGGACAAACTATAACCGACTGTTTGTGGAGGATGCCGTACATAA  
CGAACACTGCTGAAGCTACCATGTCTACAGTTgAGAGGAATGGGTACAACCTCACAGGCGAGGGATGGTGTCACTCGTGCgAG  
CAAACGCGGTGGGAGCAAAAAGTAGAATATTATCTTTTATTCGTGAACTTCGAACACTGTCTAAAGATGCTATATACcA  
ATATAGGCATACTgGAcAAgGAAAACTAcAAATCGTAAAGACAcaaGAGATCCGCTTATTTAGAAGTGTCAACAACGTATCTA  
CCAGCAATTTGGCCCTTCTCCATCTTTTCGTAAATTTCTGGcAAACTGGAcAAGCCAACTACCTTTATTGGAGACTTGACgAG  
ACCTCTGGCAAAGAAATCcAAAGGCTTCTCTGGTATCAGCTCTGTTCCCCACGTAAGAGCCGACAATGGAGATAGACTTGACAA  
CGTGGTTGAAGACATCAGAGGAGCACTTTGCACCGGCTGGCAAACCAACCAAGACAACAGTACCGTTTCGCCCTACAGTATCTG  
GTAGAAGCTTCGATAGCGGCTTCGGAACGGAACATTTGATGATACCGTGGGCACCGCGTGGTAGCCTTAACGACTGCGCT  
AACATGTCTTCTCTTTGGTGAAGTCGATGAATACTTCACCACCGAGCGAGGTAACAATTTCTTCCTTTCCTGGACCACCAT  
CAATACCcAAgACTCTGTAACCCATCGCCTTAGCATATTTGAACAGCCAAAGAACCgAGACCACCAGCAGCACCAGAAATGGCC  
GCCAGTGGCCTGCTCTCAAGTTGGCAGACTTCAAAGCCTTGTATACGGTGATACCAGCACACAAGATTGGCGGACTTCAGC  
CAAGTCAGTACCTTGAGGAATGTGAGCGGCTTGAACAGCGTCAGCGGTAGCGTATTCTTGAAAGAACCCTCGTGGGTGTAAC  
CAGACAAGTCAGCGTGAAGACAGTTGGATTCTGTTACCAATTCACAGTATTCACAGGCCATACAAGAACCCTTCAACCATTTG  
ATACCGGCGTAGTCACCGATCTTCCAGCCCTTAACGTTTTTACCCATGCCGACAACGACACCGGCACCTTCGTGACCACCAAC  
cAA TGGcAACTTAGTTGGCAATGGCCAGTCACCATGCCAAGCGTGCAAACTCGGTGTGGCAGACACCAGACTTGTGACGTTGA  
TcAAcAATTCGTTGGGCTTTGGCTTTGGAACGGGATATCCTTATGCTCCAACCTTGGCCTTGGATTCTGAGAAGATAATGGCT  
TTTTGAGTTTCTGGAATAGACATTGTGTATTACGATATAGTtAATAGTTGATAGTTGATTGTATGCTTTTTTGTAGCTTGA TAT  
TCTATTTACCAAGAAGAAACAAGAAGTGATAAAAACAACAAGAGAGCAGTAGTAAGAGTATTTTCGAGTGTGAAAAAAGTCGCT  
ACTGGCACTCTATTTATATGTGATAGGCATGCTATAGCTTTACCAAAAAGTGAACCCATTTCTATGCTCTCCTCTGCCTTTT  
TTTTTTTTTTTTTTTTTCATTCTCTCAATCTGAAATTCCTTATTTTCTCCAACCTATAAGTTGGAGATGCCGGC

> pAM600 insert (xut0741-f)

GCCGGCCCGCTATATTTGGTTTTAGATCCTGTCAATACTGAGTTCATCTTTTCATTTTCTCAATATAACATTACCGTTATCTC  
CCTTATACTTCTCAAATTCACATCTACGGAACCCCTGATCAAGCCCTGAGAACTATATGAGGGTGTGTACATTGCAGTGCATC  
ATTTGTGAGGGTTCAATAATTGAAATTATAGGGTGGACGTCAAGACGAAAAGTAAAAATTACATCCGTATAGAATTATATAA  
CTTGATGAGATGAGATGAGTAAATGACAGAAGAATTACCGTTTCATCATTGAACTTCGATCATTTCAATGCTGGCATGCGAAG  
GAAAATGAGAAATATCGAGGGAGACGATTCAGAGGAGCAGGACAAACTATAACCGACTGTTTGTGGAGGATGCCGTACATAA  
CGAACACTGCTGAAGCTACCATGTCTACAGTTgAGAGGAATGGGTACAACCTCACAGGCGAGGGATGGTGTCACTCGTGCgAG  
CAAACGCGGTGGGAGCAAAAAGTAGAATATTATCTTTTATTCGTGAACTTCGAACACTGTCTAAAGATGCTATATACcA  
ATATAGGCATACTgGAcAAgGAAAACTAcAAATCGTAAAGACAcaaGAGATCCGCTTATTTAGAAGTGTCAACAACGTATCTA  
CCAGCAATTTGGCCCTTCTCCATCTTTTCGTAAATTTCTGGcAAACTGGAcAAGCCAACTACCTTTATTGGAGACTTGACgAG  
ACCTCTGGCAAAGAAATCcAAAGGCTTCTCTGGTATCAGCTCTGTTCCCCACGTAAGAGCCGACAATGGAGATAGACTTGACAA  
CGTGGTTGAAGACATCAGAGGAGCACTTTGCACCGGCTGGCAAACCAACCAAGACAACAGTACCGTTTCGCCCTACAGTATCTG  
GTAGAAGCTTCGATAGCGGCTTCGGAACGGAACATTTGATGATACCGTGGGCACCGCGTGGTAGCCTTAACGACTGCGCT  
AACATGTCTTCTCTTTGGTGAAGTCGATGAATACTTCACCACCGAGCGGTAACAATTTCTTCCTTTCCTGGACCACCAT  
CAATACCcAAgACTCTGTAACCCATCGCCTTAGCATATTTGAACAGCCAAAGAACCgAGACCACCAGCAGCACCAGAAATGGCC  
GCCAGTGGCCTGCTCTCAAGTTGGCAGACTTCAAAGCCTTGTATACGGTGATACCAGCACACAAGATTGGCGGACTTCAGC  
CAAGTCAGTACCTTGAGGAATGTGAGCGGCTTGAACAGCGTCAGCGGTAGCGTATTCTTGAAAGAACCCTCGTGGGTGTAAC  
CAGACAAGTCAGCGTGAAGACAGTTGGATTCTGTTACCAATTCACAGTATTCACAGGCCATACAAGAACCCTTCAACCATTTG  
ATACCGGCGTAGTCACCGATCTTCCAGCCCTTAACGTTTTTACCCATGCCGACAACGACACCGGCACCTTCGTGACCACCAAC  
cAA TGGcAACTTAGTTGGCAATGGCCAGTCACCATGCCAAGCGTGCAAACTCGGTGTGGCAGACACCAGACTTGTGACGTTGA  
TcAAcAATTCGTTGGGCTTTGGCTTTGGAACGGGATATCCTTATGCTCCAACCTTGGCCTTGGATTCTGAGAAGATAATGGCT  
TTTTGAGTTTCTGGAATAGACATTGTGTATTACGATATAGTtAATAGTTGATAGTTGATTGTATGCTTTTTTGTAGCTTGA TAT  
TCTATTTACCAAGAAGAAACAAGAAGTGATAAAAACAACAAGAGAGCAGTAGTAAGAGTATTTTCGAGTGTGAAAAAAGTCGCT  
ACTGGCACTCTATTTATATGTGATAGGCATGCTATAGCTTTACCAAAAAGTGAACCCATTTCTATGCTCTCCTCTGCCTTTT  
TTTTTTTTTTTTTTTTTCATTCTCTCAATCTGAAATTCCTTATTTTCTCCAACCTATAAGTTGGAGATGCCGGC

> pAM726 insert (chimera) - **EcoRI site**

GCCGGCCCGCTATATTTGGTTTTAGATCCTGTCAATACTGAGTTCATCTTTTCATTTTCTCAATATAACATTACCGTTATCTC  
CCTTATACTTCTCAAATTTCCCATCTACGGAACCCCTGATCAAGCCCTGAGAACTATATGAGGGTGTGTACATTGCAGTGCATC  
ATTTGTGAGGGTTCAATAATTGAAATTATAGGGTGGACGTCAAGACGAAAAAGTAAAAATTACATCCGTATAGAATTATATAA  
CTTGATGAGATGAGATGAGTAAATGACAGAAGAATTACCGTTTCATCATTGAACTTCGATCATTTCAATGCTGGCATGCCAAG  
GAAAATGAGAAATATCGAGGGAGACGATTCAGAGGAGCAGGACAAACTATAACCGACTGTTTGGTGGAGG**ATGCCGTACATAA**  
**CGAACACTGCTGAAGCTACCATGTCTACAGTTgAG**AGGAATGGGTACAACCTCACAGGCGAGGGATGGTGTTCACTCGTGC**gAG**  
CAAACGCGGTGGGAGCAAAAAGTAGAATATTATCTTTTATTTCGTGAACTTCGAACACTGTTCATCTAAAGATGCTATATAC**CA**  
**A**TATAGGCATACT**gGAcAAgGA**AAACTA**CAA**ATCGTAAAGACA**CAA**GAGATCCGCTTATTTAGAAGTGTCAACAACGTATCTA  
CCAGCAATTTGGCCCTTCTCCATCTTTTCGTAAATTTCTGG**CAA**ACTGGA**CAA**GCCAACTACCTTTATTGGAGACTTGAC**gAG**  
ACCTCTGGCAAAGAAATC**CAA**GGCTTCTCTGGTATCAGCTCTGTTCCCCACGTAAGAGCCGACAATGGAGATAGACTTGACAA  
CGTGGTTGAAGACATCAGAGGAGCACTTTGCACCGGCTGGCAAACCAACCAAGACAACAGTACCGTTTCGCCCTACAGTATCTG  
GTAGAAGCTTCGATAGCGGCTTCGGAACGGAACATTTGATGATACCGTGGGCACCGCGTGGTAGCCTTAACGACTGCGCT  
AACATGTCTCTCTTTGGTGAAGTCGATGAATACTTCACCACCGAGCGAGGTAACAATTTCTTCCTTTCTGGACCACCAT  
CAATACC**CAA**GACTCTGTAACCCATCGCCTTAGCATATTTGAACAGCCAAAGAACC**gAG**ACCACCAGCAGCACCAGAAATGGCC  
GCCAGTGGCCTGCCTCAAGTTGGCAGACTTCAAAGCCTTGTATACGGTGATACCAGCACACAAGATTGGCGGACTTCAGC  
CAAGTCAGTACCTTGAGAAATGTGAGCGGCTTGAACACCGTTCAGCGGTAGCGTATTCTTGAAAGAACCCTCGTGGGTGAAC  
CAGCAAGTCAAGTGGAGACAGTGGATTCTGTTACCAATTCACAGTATTTCACAGGCATACAAGAACCCTTCAACCATTTG  
ATACCGCGTAGTCCAGATCTTCCAGCCCTTAACGTTTTTCACCCATGCCGACAACGACACCGGCACCTTCGTGACCACCAAC  
**TAA****GAATTC**AGGAATGGGTACAACCTCACAGGCGAGGGATGGTGTTCACTCGTGC**TAG**CAAACGCGGTGGGAGCAAAAAGTAGA  
ATATTATCTTTTATTTCGTGAACTTCGAACACTGTTCATCTAAAGATGCTATATAC**TAA**TATAGGCATACT**TCATAATGA**AAAC  
TA**TAA**ATCGTAAAGACA**TAA**GAGATCCGCTTATTTAGAAGTGTCAACAACGTATCTACCAGCAATTTGGCCCTTCTCCATCTT  
TTCGTAAATTTCTGG**TAA**ACTGGA**TAA**GCCAACTACCTTTATTGGAGACTTGAC**TAG**ACCTCTGGCAAAGAAATC**TAA**GGCTT  
CTCTGGTATCAGCTCTGTTCCCCACGTAAGAGCCGACAATGGAGATAGACTTGACAACGTGGTTGAAGACATCAGAGGAGCAC  
TTTGACCGGCTGGCAAACCAACCAAGACAACAGTACCGTTTCGCCCTACAGTATCTGGTAGAAGCTTCGATAGCGGCTTCGGA  
AACGGAAACATTGATGATACCGTGGGCACCGCCGTTGGTAGCCTTAACGACTGCGCTAACAAATGTCTCTTTTGGTGAAGT  
CGATGAATACTTCACCACCGAGCGAGGTAAACAATTTCTTCCTTTCTGGACCACCATCAATACC**TAA**GACTCTGTAACCCATC  
GCCTTAGCATATTTGAACAGCCAAAGAACC**TAG**ACCACCAGCAGCACCAGAAATGGCCGCCAGTGGCCTGCCTCTCAAGTTGGC  
AGACTTCAAAGCCTTGATACCGGTGATACCAGCACACAAGATTGGCGGACTTCAGCCAAGTCAGTACCTTGAGGAATGTGAG  
CGGCTTGAACAGCGTACGCGGTAGCGTATTCTTGGAAAGAACCCTGCGGTGTAACCAGACAAGTCAGCGTGAGGACAGTTG  
GATTCGTTACCCAATTCACAGTATTCACAGGCCATACAAGAACCCTTCAACCATTTGATACCGGCGTAGTCACCGATCTTCCA  
GCCCTTAACGTTTTTCAACCATGCCGACAACGACACCGGCACCTTCGTGACCACCAAC**TAA**TGG**TAA**CTTAGTTGGCAATGGCC  
AGTCACCATGCCAAGCGTGCAAATCGGTGTGGCAGACACCAGAGTACTTGACGTTGAT**TAA**CAATTCGTTGGGCTTTGGCTTT  
GGAACGGGATATCCTTATGCTCCAACCTTGCCGTTGGATTTCGTAGAAGATAATGGCTTTTTGAGTTTCTGGAATAGACATTGT  
GTATTACGATATAGT**TAATAG**TTGATAGTTGATTGTATGCTTTTTTGTAGCT**TGA**TATTCTATTTACCAAGAAGAAACAAGAAG  
TGATAAAAACAACAAGAGAGCAGTAGTAAGAGTATTTTCGAGTGTGAAAAAGTCGCTACTGGCACTCTATTTATATGTGATAG  
GCATGCTATAGCTTTACCAAAAAGTGAACCCATTTCTATGCTCTCCTCTGCCTTTTTTTTTTTTTTTTTTTTTTTTTCATTCTCTCA  
ATCTGAAATTTCTTATTTCTCCAACCTTATAAGTTGGAGATG**GCCGGC**

> pAM728 insert (xut0741-b-3FLAG)

GCCGGCCCGCTATATTTGGTTTTAGATCCTGTCAACTACTGAGTTCATCTTTTCATTTTCTCAATATAACATTACCGTTATCTC  
CCTTATACTTCTCAAATTTCCCATCTACGGAACCCCTGATCAAGCCCTGAGAACTATATGAGGGTGTGTACATTGCAGTGCATC  
ATTTGTGAGGGTTCAATAATTGAAATTATAGGGTGGACGTCAAGACGAAAAGTAAAAATTACATCCGTATAGAATTATATAA  
CTTGATGAGATGAGATGAGTAAATGACAGAAGAATTACCGTTTCATCATTGAACTTCGATCATTTCATGCTGGCATGCGAAG  
GAAAATGAGAAATATCGAGGGAGACGATTCAGAGGAGCAGGACAAACTATAACCGACTGTTTGGTGGAGGATGCCGTACATAA  
CGAACACTGCTGAAGCTACCATGTCTACAGTTGAGAGGAATGGGTACAACCTCACAGGCGAGGGATGGTGTCACTCGTGCAG  
CAAACGCGGTGGGAGCAAAAAGTAGAATATTATCTTTTATTTCGTGAACTTCGAACACTGTCTATAAGATGCTATATACCA  
ATATAGGCATACTGACAAAGGAAACTAATAATCGTAAAGACAAGAGATCCGCTTATTTAGAAGTGTCAACAACGTATCTA  
CCAGCAATTTGGCCCTTCTCCATCTTTTCGTAAATTTCTGGCAACTGGAAGCCAACTACCTTTATTGGAGACTTGACAG  
ACCTCTGGCAAAGAAATCCAAAGGCTTCTCTGGTATCAGCTCTGTTCCCAAGTAAGAGCCGACAATGGAGATAGACTTGACAA  
CGTGGTTGAAGACATCAGAGGAGCACTTTCACCAGGCTGGCAAACCAACCAAGACAACAGTACCGTTCCGCTTACAGTATCTG  
GTAGAAGCTTCGATAGCGGCTTCGGAACGGAACATTTGATGATACCGTGGGCACCGCGTTGGTAGCCTTAACGACTGCGCT  
AACATGTCTCTCTTTGGTGAAGTCGATGAATACTTACCACCGAGCGAGGTAAACAATTTCTTCTTCTTGGACCACCAT  
CAATACCAGACTCTGTAACCCATCGCTTAGCATATTGAACAGCCAAAGAACCAGCTACAAAGACCATGACGGTATTATA  
AAGATCATGACATCGATTACAAGGATGACGATGACAAGCTAGGATCCAGACCACCAGCAGCACCAGAAATGGCCGCCAGTG  
GCCTGCTCTCAAGTTGGCAGACTTCAAAGCCTTGATACCGTGTATACCAGCACACAAGATTGGCCGACTTCAGCCAAGTCA  
TACCTTGAGGAATGTGACGCGCTTGAACAGCGTACGGGTAGCGTATTTCTTGGAAAGAACCCTCGTGGTGTAAACCAAG  
TCAGCGTGAGGACAGTTGGATTCTTACCCAATTCACAGTATTACAGGCCATACAAGAACCCTCAACCATTTGATACCGGC  
GTAGTCAACGATCTTCCAGCCCTTAACTTTTACCCTATGCCGACAACGACACCGGCACCTTCGTGACCACCAACTAATGGTA  
ACTTAGTTGGCAATGGCCAGTCAACATGCCAAGCGTGCAAATCGGTGTGGCAGACACCAGAGTACTTGACGTTGATTAACAAT  
TCGTTGGGCTTTGGCTTTGGAACGGGATATCCTTATGCTCCAACCTGCCGTTGGATTCTGATAGAAGATAATGGCTTTTTGAGT  
TTCTGGAATAGACATTTGTGATTACGATATAGTAAATAGTTGATAGTTGATTGTATGCTTTTTGTAGCTGATATTCTATTTA  
CCAAGAAGAAACAAGAAGTGATAAAAAACAACAAGAGAGCAGTAGTAAGAGTATTTTCGAGTGTGAAAAAGTCGCTACTGGCAC  
TCTATTTATATGTGATAGGCATGCTATAGCTTTACCAAAAAGTGAACCCATTTCTATGCTCTCCTCTGCCTTTTTTTTTTTT  
TTTTTTTTTTCATTCTCTCAATCTGAAATTTCTTATTCTTCCAACCTTATAAGTTGGAGATGCCGGC

> pAM741 insert (SL-xut0741-b-3FLAG)

GCCGGCCCGCTATATTTGGTTTTAGATCCTGTCAACTACTGAGTTCATCTTTTCATTTTCTCAATATAACATTACCGTTATCTC  
CCTTATACTTCTCAAATTTCCCATCTACGGAACCCCTGATCAAGCCCTGAGAACTATATGAGGGTGTGTACATTGCAGTGCATC  
ATTTGTGAGGGTTCAATAATTGAAATTATAGGGTGGACGTCAAGACGAAAAGTAAAAATTACATCCGTATAGAATTATATAA  
CTTGATGAGATGAGATGAGTAAATGACAGAAGAATTACCGTTTCATCATTGAACTTCGATCATTTCATGCTGGCATGCGAAG  
GAAAATGAGAAATATCGAGGGAGACGATTCAGAGGAGCAGGACAAACTATAACCGACTGATCCCGCGGTTCCCGCGGTTTTGT  
TGGAGGATGCCGTACATAACGAACACTGCTGAAGCTACCATGTCTACAGTTGAGAGGAATGGGTACAACCTCACAGGCGAGGGA  
TGGTGTTCACCTCGTGCAGCAAACGCGGTGGGAGCAAAAAGTAGAATATTATCTTTTATTCGTGAACTTCGAACACTGTCTA  
CTAAAGATGCTATATACCAATATAGGCATACTGACAAAGGAAACTAATAATCGTAAAGACAAGAGATCCGCTTATTTAGA  
AGTGTCAACAACGTATCTACCAGCAATTTGGCCCTTCTCCATCTTTTCGTAAATTTCTGGCAACTGGAAGCCAACTACCT  
TTATTGGAGACTTGACAGACCTCTGGCAAAGAAATCCAAAGGCTTCTCTGGTATCAGCTCTGTTCCCAAGTAAGAGCCGACA  
ATGGAGATAGACTTGACAACGTGGTTGAAGACATCAGAGGAGCACTTTCACCAGGCTGGCAAACCAACCAAGACAACAGTACC  
GTTCCGCTTACAGTATTCGGTAGAAGCTTCGATAGCGGCTTCGGAACGGAACATTTGATGATACCGTGGGCACCGCGTTGG  
TAGCCTTAACGACTTCGCTAACAATGTCTTCTCTTTGGTGAAGTCGATGAATACTTACCACCGAGCGAGGTAAACAATTTCT  
TCCTTCTTGGACCACCATCAATACCAGACTCTGTAACCCATCGCTTAGCATATTGAACAGCCAAAGAACCAGCTACAAA  
GACCATGACGGTATTATAAAGATCATGACATCGATTACAAGGATGACGATGACAAGCTAGGATCCAGACCACCAGCAGCAC  
CAGAAATGGCCGCCAGTGGCCTGCTCTCAAGTTGGCAGACTTCAAAGCCTTGATACCGTGTATACCAGCACACAAGATTGGC  
GCGACTTCAGCCAAGTCAGTACCTTGAGGAATGTGAGCGGCTTGAACAGCGTCAGCGGTAGCGTATTCTTGGAAAGAACCGTC  
GTGGTGTAAACAGACAAGTCAGCGTGAAGACAGTTGGATTGCTTACCAATTCACAGTATTCACAGGCCATACAAGAACCGT  
TCAACCATTTGATACCGCGTAGTACCGATCTTCCAGCCCTTAACTGTTTTACCCATGCCGACAACGACACCGGCACCTTCG  
TGACCACCAACTAATGGTAACTTAGTTGGCAATGGCCAGTCAACATGCCAAGCGTGCAAAATCGGTGTGGCAGACACCAGAGTA  
CTTGACGTTGATTAACAATTCGTTGGGCTTTGGCTTTGGAACGGGATATCCTTATGCTCCAACCTTGGCCTGGATTCTGATA  
AGATAATGGCTTTTTGAGTTTCTGGAATAGACATTTGTGATTACGATATAGTAAATAGTTGATAGTTGATTGTATGCTTTTTG  
TAGCTGATATTCTATTTACCAAGAAGAAACAAGAAGTGATAAAAAACAACAAGAGAGCAGTAGTAAGAGTATTTTCGAGTGTGA  
AAAAAGTCGCTACTGGCACTCTATTTATATGTGATAGGCATGCTATAGCTTTACCAAAAAGTGAACCCATTTCTATGCTCTC  
CTCTGCCTTTTTTTTTTTTTTTTTTTTTTTCATTCTCTCAATCTGAAATTTCTTATTCTTCCAACCTTATAAGTTGGAGATGCCGGC

CLUSTAL O(1.2.4) multiple sequence alignment

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XUT0741      GAGAAATATCGAGGGAGACGATTCAGAGGAGCAGGACAAACTATAACCGACTGTTTGTG 60
XUT0741-a    GAGAAATATCGAGGGAGACGATTCAGAGGAGCAGGACAAACTATAACCGACTGTTTGTG 60
XUT0741-b    GAGAAATATCGAGGGAGACGATTCAGAGGAGCAGGACAAACTATAACCGACTGTTTGTG 60
XUT0741-c    GAGAAATATCGAGGGAGACGATTCAGAGGAGCAGGACAAACTATAACCGACTGTTTGTG 60
XUT0741-d    GAGAAATATCGAGGGAGACGATTCAGAGGAGCAGGACAAACTATAACCGACTGTTTGTG 60
XUT0741-e    GAGAAATATCGAGGGAGACGATTCAGAGGAGCAGGACAAACTATAACCGACTGTTTGTG 60
XUT0741-f    GAGAAATATCGAGGGAGACGATTCAGAGGAGCAGGACAAACTATAACCGACTGTTTGTG 60
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XUT0741      GAGGATGCCGTACATAACGAACACTGCTGAAGCTACCATGTCTACAGTTTACAGGAATGG 120
XUT0741-a    GAGGATGCCGTACATAACGAACACTGCTGAAGCTACCATGTCTACAGTTgAGAGGAATGG 120
XUT0741-b    GAGGATGCCGTACATAACGAACACTGCTGAAGCTACCATGTCTACAGTTgAGAGGAATGG 120
XUT0741-c    GAGGATGCCGTACATAACGAACACTGCTGAAGCTACCATGTCTACAGTTgAGAGGAATGG 120
XUT0741-d    GAGGATGCCGTACATAACGAACACTGCTGAAGCTACCATGTCTACAGTTgAGAGGAATGG 120
XUT0741-e    GAGGATGCCGTACATAACGAACACTGCTGAAGCTACCATGTCTACAGTTgAGAGGAATGG 120
XUT0741-f    GAGGATGCCGTACATAACGAACACTGCTGAAGCTACCATGTCTACAGTTgAGAGGAATGG 120
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XUT0741      GTACAACTCACAGGCGAGGGATGGTGTTCCTCGTGCCTAGCAAACCGCGTGGGAGCAAAA 180
XUT0741-a    GTACAACTCACAGGCGAGGGATGGTGTTCCTCGTGCgAGCAAACCGCGTGGGAGCAAAA 180
XUT0741-b    GTACAACTCACAGGCGAGGGATGGTGTTCCTCGTGCgAGCAAACCGCGTGGGAGCAAAA 180
XUT0741-c    GTACAACTCACAGGCGAGGGATGGTGTTCCTCGTGCgAGCAAACCGCGTGGGAGCAAAA 180
XUT0741-d    GTACAACTCACAGGCGAGGGATGGTGTTCCTCGTGCgAGCAAACCGCGTGGGAGCAAAA 180
XUT0741-e    GTACAACTCACAGGCGAGGGATGGTGTTCCTCGTGCgAGCAAACCGCGTGGGAGCAAAA 180
XUT0741-f    GTACAACTCACAGGCGAGGGATGGTGTTCCTCGTGCgAGCAAACCGCGTGGGAGCAAAA 180
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XUT0741      AGTAGAATATTATCTTTTATTCGTGAAACTTCGAACACTGTCACTCTAAAGATGCTATATA 240
XUT0741-a    AGTAGAATATTATCTTTTATTCGTGAAACTTCGAACACTGTCACTCTAAAGATGCTATATA 240
XUT0741-b    AGTAGAATATTATCTTTTATTCGTGAAACTTCGAACACTGTCACTCTAAAGATGCTATATA 240
XUT0741-c    AGTAGAATATTATCTTTTATTCGTGAAACTTCGAACACTGTCACTCTAAAGATGCTATATA 240
XUT0741-d    AGTAGAATATTATCTTTTATTCGTGAAACTTCGAACACTGTCACTCTAAAGATGCTATATA 240
XUT0741-e    AGTAGAATATTATCTTTTATTCGTGAAACTTCGAACACTGTCACTCTAAAGATGCTATATA 240
XUT0741-f    AGTAGAATATTATCTTTTATTCGTGAAACTTCGAACACTGTCACTCTAAAGATGCTATATA 240
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XUT0741      CTAATATAGGCATACTTGATAATGAAAACATAAATCGTAAAGACATAAGAGATCCGCTT 300
XUT0741-a    CcAATATAGGCATACTgGAcAAgGAAAACtAcAAATCGTAAAGACAcAAGAGATCCGCTT 300
XUT0741-b    CcAATATAGGCATACTgGAcAAgGAAAACtAcAAATCGTAAAGACAcAAGAGATCCGCTT 300
XUT0741-c    CcAATATAGGCATACTgGAcAAgGAAAACtAcAAATCGTAAAGACAcAAGAGATCCGCTT 300
XUT0741-d    CcAATATAGGCATACTgGAcAAgGAAAACtAcAAATCGTAAAGACAcAAGAGATCCGCTT 300
XUT0741-e    CcAATATAGGCATACTgGAcAAgGAAAACtAcAAATCGTAAAGACAcAAGAGATCCGCTT 300
XUT0741-f    CcAATATAGGCATACTgGAcAAgGAAAACtAcAAATCGTAAAGACAcAAGAGATCCGCTT 300
* ***** ** * ***** *****

XUT0741      ATTTAGAAGTGTCAACAACGTATCTACCAGCAATTTGGCCCTTCTCCATCTTTTCGTAAA 360
XUT0741-a    ATTTAGAAGTGTCAACAACGTATCTACCAGCAATTTGGCCCTTCTCCATCTTTTCGTAAA 360
XUT0741-b    ATTTAGAAGTGTCAACAACGTATCTACCAGCAATTTGGCCCTTCTCCATCTTTTCGTAAA 360
XUT0741-c    ATTTAGAAGTGTCAACAACGTATCTACCAGCAATTTGGCCCTTCTCCATCTTTTCGTAAA 360
XUT0741-d    ATTTAGAAGTGTCAACAACGTATCTACCAGCAATTTGGCCCTTCTCCATCTTTTCGTAAA 360
XUT0741-e    ATTTAGAAGTGTCAACAACGTATCTACCAGCAATTTGGCCCTTCTCCATCTTTTCGTAAA 360
XUT0741-f    ATTTAGAAGTGTCAACAACGTATCTACCAGCAATTTGGCCCTTCTCCATCTTTTCGTAAA 360
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XUT0741      TTTCTGGTAAACTGGATAAGCCAACCTTTATTTGGAGACTTGACCTAGACCTCTGGCAA 420
XUT0741-a    TTTCTGGcAAACTGGAcAAGCCAACCTTTATTTGGAGACTTGACgAGACCTCTGGCAA 420
XUT0741-b    TTTCTGGcAAACTGGAcAAGCCAACCTTTATTTGGAGACTTGACgAGACCTCTGGCAA 420
XUT0741-c    TTTCTGGcAAACTGGAcAAGCCAACCTTTATTTGGAGACTTGACgAGACCTCTGGCAA 420
XUT0741-d    TTTCTGGcAAACTGGAcAAGCCAACCTTTATTTGGAGACTTGACgAGACCTCTGGCAA 420
XUT0741-e    TTTCTGGcAAACTGGAcAAGCCAACCTTTATTTGGAGACTTGACgAGACCTCTGGCAA 420
XUT0741-f    TTTCTGGcAAACTGGAcAAGCCAACCTTTATTTGGAGACTTGACgAGACCTCTGGCAA 420
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XUT0741 AGAAATCTAAGGCTTCTCTGGTATCAGCTCTGTTCCCCACGTAAGAGCCGACAATGGAGA 480  
XUT0741-a AGAAATCTAAGGCTTCTCTGGTATCAGCTCTGTTCCCCACGTAAGAGCCGACAATGGAGA 480  
XUT0741-b AGAAATCcAAGGCTTCTCTGGTATCAGCTCTGTTCCCCACGTAAGAGCCGACAATGGAGA 480  
XUT0741-c AGAAATCcAAGGCTTCTCTGGTATCAGCTCTGTTCCCCACGTAAGAGCCGACAATGGAGA 480  
XUT0741-d AGAAATCcAAGGCTTCTCTGGTATCAGCTCTGTTCCCCACGTAAGAGCCGACAATGGAGA 480  
XUT0741-e AGAAATCcAAGGCTTCTCTGGTATCAGCTCTGTTCCCCACGTAAGAGCCGACAATGGAGA 480  
XUT0741-f AGAAATCcAAGGCTTCTCTGGTATCAGCTCTGTTCCCCACGTAAGAGCCGACAATGGAGA 480  
\*\*\*\*\*

XUT0741 TAGACTTGACAACGTGGTTGAAGACATCAGAGGAGCACTTTGCACCGCTGGCAAACCAA 540  
XUT0741-a TAGACTTGACAACGTGGTTGAAGACATCAGAGGAGCACTTTGCACCGCTGGCAAACCAA 540  
XUT0741-b TAGACTTGACAACGTGGTTGAAGACATCAGAGGAGCACTTTGCACCGCTGGCAAACCAA 540  
XUT0741-c TAGACTTGACAACGTGGTTGAAGACATCAGAGGAGCACTTTGCACCGCTGGCAAACCAA 540  
XUT0741-d TAGACTTGACAACGTGGTTGAAGACATCAGAGGAGCACTTTGCACCGCTGGCAAACCAA 540  
XUT0741-e TAGACTTGACAACGTGGTTGAAGACATCAGAGGAGCACTTTGCACCGCTGGCAAACCAA 540  
XUT0741-f TAGACTTGACAACGTGGTTGAAGACATCAGAGGAGCACTTTGCACCGCTGGCAAACCAA 540  
\*\*\*\*\*

XUT0741 CCAAGACAACAGTACCGTTCGCCCTACAGTATCTGGTAGAAGCTTCGATAGCGGCTTCGG 600  
XUT0741-a CCAAGACAACAGTACCGTTCGCCCTACAGTATCTGGTAGAAGCTTCGATAGCGGCTTCGG 600  
XUT0741-b CCAAGACAACAGTACCGTTCGCCCTACAGTATCTGGTAGAAGCTTCGATAGCGGCTTCGG 600  
XUT0741-c CCAAGACAACAGTACCGTTCGCCCTACAGTATCTGGTAGAAGCTTCGATAGCGGCTTCGG 600  
XUT0741-d CCAAGACAACAGTACCGTTCGCCCTACAGTATCTGGTAGAAGCTTCGATAGCGGCTTCGG 600  
XUT0741-e CCAAGACAACAGTACCGTTCGCCCTACAGTATCTGGTAGAAGCTTCGATAGCGGCTTCGG 600  
XUT0741-f CCAAGACAACAGTACCGTTCGCCCTACAGTATCTGGTAGAAGCTTCGATAGCGGCTTCGG 600  
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XUT0741 AAACGGAAACATTTGATGATACCGTGGGCACCGCCGTTGGTAGCCTTAACGACTGCGCTAA 660  
XUT0741-a AAACGGAAACATTTGATGATACCGTGGGCACCGCCGTTGGTAGCCTTAACGACTGCGCTAA 660  
XUT0741-b AAACGGAAACATTTGATGATACCGTGGGCACCGCCGTTGGTAGCCTTAACGACTGCGCTAA 660  
XUT0741-c AAACGGAAACATTTGATGATACCGTGGGCACCGCCGTTGGTAGCCTTAACGACTGCGCTAA 660  
XUT0741-d AAACGGAAACATTTGATGATACCGTGGGCACCGCCGTTGGTAGCCTTAACGACTGCGCTAA 660  
XUT0741-e AAACGGAAACATTTGATGATACCGTGGGCACCGCCGTTGGTAGCCTTAACGACTGCGCTAA 660  
XUT0741-f AAACGGAAACATTTGATGATACCGTGGGCACCGCCGTTGGTAGCCTTAACGACTGCGCTAA 660  
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XUT0741 CAATGTCCCTTCTCTTTGGTGAAGTCGATGAATACTTCACCACCGAGCGAGGTAAACAATT 720  
XUT0741-a CAATGTCCCTTCTCTTTGGTGAAGTCGATGAATACTTCACCACCGAGCGAGGTAAACAATT 720  
XUT0741-b CAATGTCCCTTCTCTTTGGTGAAGTCGATGAATACTTCACCACCGAGCGAGGTAAACAATT 720  
XUT0741-c CAATGTCCCTTCTCTTTGGTGAAGTCGATGAATACTTCACCACCGAGCGAGGTAAACAATT 720  
XUT0741-d CAATGTCCCTTCTCTTTGGTGAAGTCGATGAATACTTCACCACCGAGCGAGGTAAACAATT 720  
XUT0741-e CAATGTCCCTTCTCTTTGGTGAAGTCGATGAATACTTCACCACCGAGCGAGGTAAACAATT 720  
XUT0741-f CAATGTCCCTTCTCTTTGGTGAAGTCGATGAATACTTCACCACCGAGCGAGGTAAACAATT 720  
\*\*\*\*\*

XUT0741 CTTCCCTTTCCTGGACCACCATCAATACCcAAGACTCTGTAACCCATCGCCTTAGCATATT 780  
XUT0741-a CTTCCCTTTCCTGGACCACCATCAATACCcAAGACTCTGTAACCCATCGCCTTAGCATATT 780  
XUT0741-b CTTCCCTTTCCTGGACCACCATCAATACCcAAGACTCTGTAACCCATCGCCTTAGCATATT 780  
XUT0741-c CTTCCCTTTCCTGGACCACCATCAATACCcAAGACTCTGTAACCCATCGCCTTAGCATATT 780  
XUT0741-d CTTCCCTTTCCTGGACCACCATCAATACCcAAGACTCTGTAACCCATCGCCTTAGCATATT 780  
XUT0741-e CTTCCCTTTCCTGGACCACCATCAATACCcAAGACTCTGTAACCCATCGCCTTAGCATATT 780  
XUT0741-f CTTCCCTTTCCTGGACCACCATCAATACCcAAGACTCTGTAACCCATCGCCTTAGCATATT 780  
\*\*\*\*\*

XUT0741 GAACAGCCAAAGAACCcTAGACCACCAGCAGCACCAGAAATGGCCGCCAGTGGCCTGCTC 840  
XUT0741-a GAACAGCCAAAGAACCcTAGACCACCAGCAGCACCAGAAATGGCCGCCAGTGGCCTGCTC 840  
XUT0741-b GAACAGCCAAAGAACCcTAGACCACCAGCAGCACCAGAAATGGCCGCCAGTGGCCTGCTC 840  
XUT0741-c GAACAGCCAAAGAACCgAGACCACCAGCAGCACCAGAAATGGCCGCCAGTGGCCTGCTC 840  
XUT0741-d GAACAGCCAAAGAACCgAGACCACCAGCAGCACCAGAAATGGCCGCCAGTGGCCTGCTC 840  
XUT0741-e GAACAGCCAAAGAACCgAGACCACCAGCAGCACCAGAAATGGCCGCCAGTGGCCTGCTC 840  
XUT0741-f GAACAGCCAAAGAACCgAGACCACCAGCAGCACCAGAAATGGCCGCCAGTGGCCTGCTC 840  
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XUT0741 TCAAGTTGGCAGACTTCAAAGCCTTGTATACGGTGATACCAGCACACAAGATTGGCGCGA 900  
XUT0741-a TCAAGTTGGCAGACTTCAAAGCCTTGTATACGGTGATACCAGCACACAAGATTGGCGCGA 900  
XUT0741-b TCAAGTTGGCAGACTTCAAAGCCTTGTATACGGTGATACCAGCACACAAGATTGGCGCGA 900  
XUT0741-c TCAAGTTGGCAGACTTCAAAGCCTTGTATACGGTGATACCAGCACACAAGATTGGCGCGA 900  
XUT0741-d TCAAGTTGGCAGACTTCAAAGCCTTGTATACGGTGATACCAGCACACAAGATTGGCGCGA 900  
XUT0741-e TCAAGTTGGCAGACTTCAAAGCCTTGTATACGGTGATACCAGCACACAAGATTGGCGCGA 900  
XUT0741-f TCAAGTTGGCAGACTTCAAAGCCTTGTATACGGTGATACCAGCACACAAGATTGGCGCGA 900  
\*\*\*\*\*

XUT0741 CTTCAGCCAAGTCAGTACCTTGAGGAATGTGAGCGGCTTGAACAGCGTCAGCGGTAGCGT 960  
XUT0741-a CTTCAGCCAAGTCAGTACCTTGAGGAATGTGAGCGGCTTGAACAGCGTCAGCGGTAGCGT 960  
XUT0741-b CTTCAGCCAAGTCAGTACCTTGAGGAATGTGAGCGGCTTGAACAGCGTCAGCGGTAGCGT 960  
XUT0741-c CTTCAGC LAA GTCAGTACCTTGAGGAATGTGAGCGGCTTGAACAGCGTCAGCGGTAGCGT 960  
XUT0741-d CTTCAGCCAAGTCAGTACCTTGAGGAATGTGAGCGGCTTGAACAGCGTCAGCGGTAGCGT 960  
XUT0741-e CTTCAGCCAAGTCAGTACCTTGAGGAATGTGAGCGGCTTGAACAGCGTCAGCGGTAGCGT 960  
XUT0741-f CTTCAGCCAAGTCAGTACCTTGAGGAATGTGAGCGGCTTGAACAGCGTCAGCGGTAGCGT 960  
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XUT0741 ATTCTTGAAAGAACCCTCGTGGGTGTAACCAGACAAGTCAGCGTGAGGACAGTTGGATT 1020  
XUT0741-a ATTCTTGAAAGAACCCTCGTGGGTGTAACCAGACAAGTCAGCGTGAGGACAGTTGGATT 1020  
XUT0741-b ATTCTTGAAAGAACCCTCGTGGGTGTAACCAGACAAGTCAGCGTGAGGACAGTTGGATT 1020  
XUT0741-c ATTCTTGAAAGAACCCTCGTGGGTGTAACCAGACAAGTCAGCGTGAGGACAGTTGGATT 1020  
XUT0741-d ATTCTTGAAAGAACCCTCGTGGGTGTAACCAGACAAGTCAGCGTGAGGACAGTTGGATT 1020  
XUT0741-e ATTCTTGAAAGAACCCTCGTGGGTGTAACCAGACAAGTCAGCGTGAGGACAGTTGGATT 1020  
XUT0741-f ATTCTTGAAAGAACCCTCGTGGGTGTAACCAGACAAGTCAGCGTGAGGACAGTTGGATT 1020  
\*\*\*\*\*

XUT0741 CGTTACCCAATTCACAGTATTCACAGGCCATACAAGAACCCTCAACCATTTGATACCGG 1080  
XUT0741-a CGTTACCCAATTCACAGTATTCACAGGCCATACAAGAACCCTCAACCATTTGATACCGG 1080  
XUT0741-b CGTTACCCAATTCACAGTATTCACAGGCCATACAAGAACCCTCAACCATTTGATACCGG 1080  
XUT0741-c CGTTACCCAATTCACAGTATTCACAGGCCATACAAGAACCCTCAACCATTTGATACCGG 1080  
XUT0741-d CGTTACCCAATTCACAGTATTCACAGGCCATACAAGAACCCTCAACCATTTGATACCGG 1080  
XUT0741-e CGTTACCCAATTCACAGTATTCACAGGCCATACAAGAACCCTCAACCATTTGATACCGG 1080  
XUT0741-f CGTTACCCAATTCACAGTATTCACAGGCCATACAAGAACCCTCAACCATTTGATACCGG 1080  
\*\*\*\*\*

XUT0741 CGTAGTCACCGATCTTCCAGCCCTTAACGTTTTACCCATGCCGACAACGACACCGGCAC 1140  
XUT0741-a CGTAGTCACCGATCTTCCAGCCCTTAACGTTTTACCCATGCCGACAACGACACCGGCAC 1140  
XUT0741-b CGTAGTCACCGATCTTCCAGCCCTTAACGTTTTACCCATGCCGACAACGACACCGGCAC 1140  
XUT0741-c CGTAGTCACCGATCTTCCAGCCCTTAACGTTTTACCCATGCCGACAACGACACCGGCAC 1140  
XUT0741-d CGTAGTCACCGATCTTCCAGCCCTTAACGTTTTACCCATGCCGACAACGACACCGGCAC 1140  
XUT0741-e CGTAGTCACCGATCTTCCAGCCCTTAACGTTTTACCCATGCCGACAACGACACCGGCAC 1140  
XUT0741-f CGTAGTCACCGATCTTCCAGCCCTTAACGTTTTACCCATGCCGACAACGACACCGGCAC 1140  
\*\*\*\*\*

XUT0741 CTTTCGTGACCACCAAC TAA TGG FAA CTTAGTTGGCAATGGCCAGTCACCATGCCAAGCGT 1200  
XUT0741-a CTTTCGTGACCACCAACTAATGGTAACTTAGTTGGCAATGGCCAGTCACCATGCCAAGCGT 1200  
XUT0741-b CTTTCGTGACCACCAACTAATGGTAACTTAGTTGGCAATGGCCAGTCACCATGCCAAGCGT 1200  
XUT0741-c CTTTCGTGACCACCAACTAATGGTAACTTAGTTGGCAATGGCCAGTCACCATGCCAAGCGT 1200  
XUT0741-d CTTTCGTGACCACCAACTAATGGTAACTTAGTTGGCAATGGCCAGTCACCATGCCAAGCGT 1200  
XUT0741-e CTTTCGTGACCACCAACcAATGGcAACTTAGTTGGCAATGGCCAGTCACCATGCCAAGCGT 1200  
XUT0741-f CTTTCGTGACCACCAACcAATGGcAACTTAGTTGGCAATGGCCAGTCACCATGCCAAGCGT 1200  
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XUT0741 GCAAATCGGTGTGGCAGACACCAGAGTACTTGACGTTGAT TAA CAATTCGTTGGGCTTTG 1260  
XUT0741-a GCAAATCGGTGTGGCAGACACCAGAGTACTTGACGTTGATTAACAATTCGTTGGGCTTTG 1260  
XUT0741-b GCAAATCGGTGTGGCAGACACCAGAGTACTTGACGTTGATTAACAATTCGTTGGGCTTTG 1260  
XUT0741-c GCAAATCGGTGTGGCAGACACCAGAGTACTTGACGTTGATTAACAATTCGTTGGGCTTTG 1260  
XUT0741-d GCAAATCGGTGTGGCAGACACCAGAGTACTTGACGTTGATTAACAATTCGTTGGGCTTTG 1260  
XUT0741-e GCAAATCGGTGTGGCAGACACCAGAGTACTTGACGTTGATTAACAATTCGTTGGGCTTTG 1260  
XUT0741-f GCAAATCGGTGTGGCAGACACCAGAGTACTTGACGTTGATcACAATTCGTTGGGCTTTG 1260  
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XUT0741 GCTTTGGAAC TGGGATATCCTTATGCTCCAAC TTGCCGTTGGATTTCGTAGAAGATAATGG 1320  
XUT0741-a GCTTTGGAAC TGGGATATCCTTATGCTCCAAC TTGCCGTTGGATTTCGTAGAAGATAATGG 1320  
XUT0741-b GCTTTGGAAC TGGGATATCCTTATGCTCCAAC TTGCCGTTGGATTTCGTAGAAGATAATGG 1320  
XUT0741-c GCTTTGGAAC TGGGATATCCTTATGCTCCAAC TTGCCGTTGGATTTCGTAGAAGATAATGG 1320  
XUT0741-d GCTTTGGAAC TGGGATATCCTTATGCTCCAAC TTGCCGTTGGATTTCGTAGAAGATAATGG 1320  
XUT0741-e GCTTTGGAAC TGGGATATCCTTATGCTCCAAC TTGCCGTTGGATTTCGTAGAAGATAATGG 1320  
XUT0741-f GCTTTGGAAC TGGGATATCCTTATGCTCCAAC TTGCCGTTGGATTTCGTAGAAGATAATGG 1320  
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XUT0741 CTTTTGAGTTTCTGGAATAGACATTGTGTATTACGATATAGT **TAATAG**TTGATAGTTGA 1380  
XUT0741-a CTTTTGAGTTTCTGGAATAGACATTGTGTATTACGATATAGT **TAATAG**TTGATAGTTGA 1380  
XUT0741-b CTTTTGAGTTTCTGGAATAGACATTGTGTATTACGATATAGT **TAATAG**TTGATAGTTGA 1380  
XUT0741-c CTTTTGAGTTTCTGGAATAGACATTGTGTATTACGATATAGT **TAATAG**TTGATAGTTGA 1380  
XUT0741-d CTTTTGAGTTTCTGGAATAGACATTGTGTATTACGATATAGT **TAATAG**TTGATAGTTGA 1380  
XUT0741-e CTTTTGAGTTTCTGGAATAGACATTGTGTATTACGATATAGT **TAATAG**TTGATAGTTGA 1380  
XUT0741-f CTTTTGAGTTTCTGGAATAGACATTGTGTATTACGATATAGT **TAATAG**TTGATAGTTGA 1380  
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XUT0741 TTGTATGCTTTTTGTAGCT **TGAT**TATTCTATTTACCAAGAAGAAACAAGAAGTGATAAAAA 1440  
XUT0741-a TTGTATGCTTTTTGTAGCT **TGAT**TATTCTATTTACCAAGAAGAAACAAGAAGTGATAAAAA 1440  
XUT0741-b TTGTATGCTTTTTGTAGCT **TGAT**TATTCTATTTACCAAGAAGAAACAAGAAGTGATAAAAA 1440  
XUT0741-c TTGTATGCTTTTTGTAGCT **TGAT**TATTCTATTTACCAAGAAGAAACAAGAAGTGATAAAAA 1440  
XUT0741-d TTGTATGCTTTTTGTAGCT **TGAT**TATTCTATTTACCAAGAAGAAACAAGAAGTGATAAAAA 1440  
XUT0741-e TTGTATGCTTTTTGTAGCT **TGAT**TATTCTATTTACCAAGAAGAAACAAGAAGTGATAAAAA 1440  
XUT0741-f TTGTATGCTTTTTGTAGCT **TGAT**TATTCTATTTACCAAGAAGAAACAAGAAGTGATAAAAA 1440  
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XUT0741 CAACAAGAGAGCAGTAG 1457  
XUT0741-a CAACAAGAGAGCAGTAG 1457  
XUT0741-b CAACAAGAGAGCAGTAG 1457  
XUT0741-c CAACAAGAGAGCAGTAG 1457  
XUT0741-d CAACAAGAGAGCAGTAG 1457  
XUT0741-e CAACAAGAGAGCAGTAG 1457  
XUT0741-f CAACAAGAGAGCAGTAG 1457  
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