

FGENESH 2.6 Prediction of potential genes in Ustilago genomic DNA

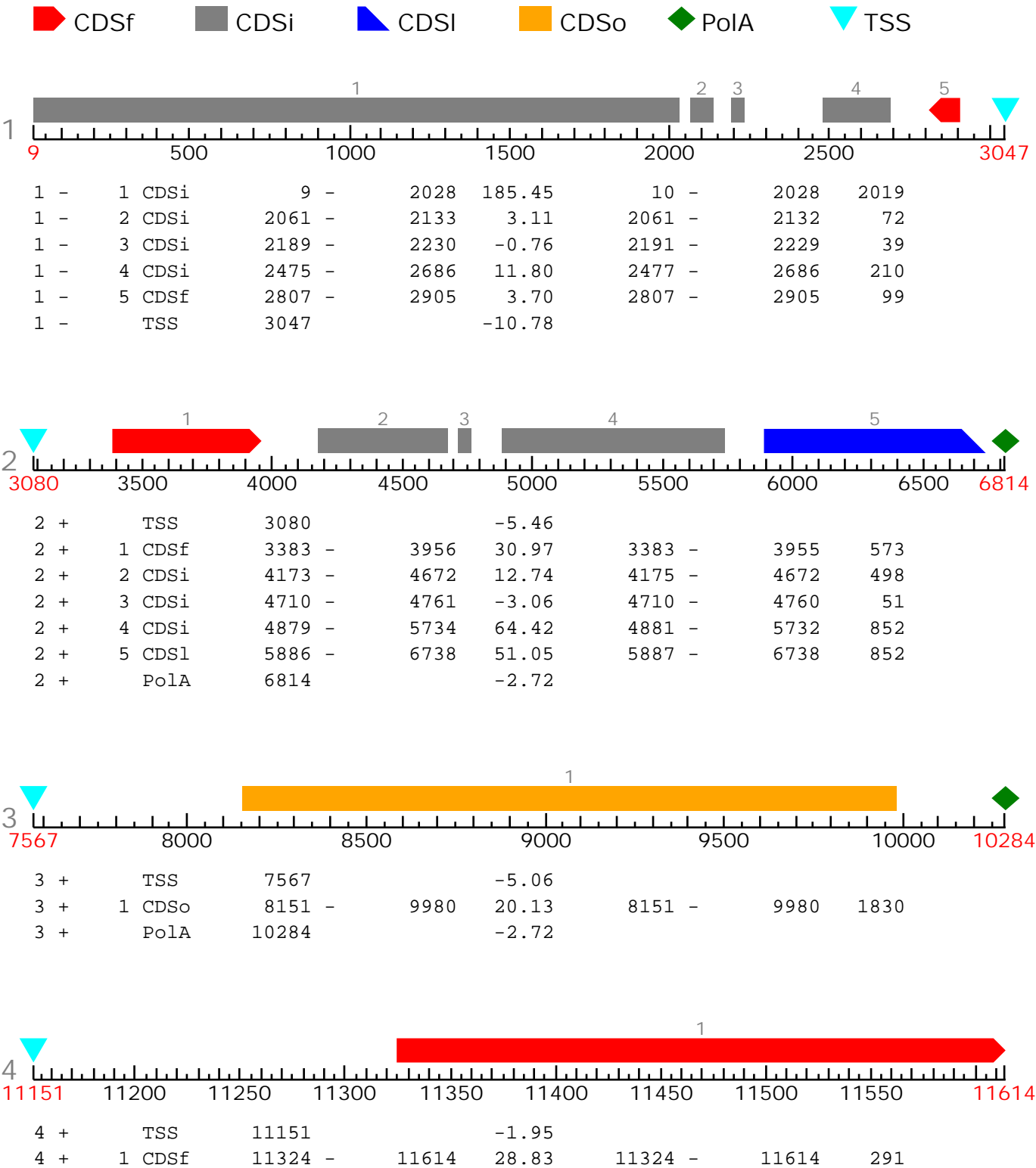
Seq name:

Length of sequence: 11735

Number of predicted genes 4: in +chain 3, in -chain 1.

Number of predicted exons 12: in +chain 7, in -chain 5.

Positions of predicted genes and exons: Variant 1 from 1, Score:342.785937



Predicted protein(s):

>FGENESH:[mRNA] 1 5 exon (s) 9 - 2905 2445 bp, chain -  
ATGGGAAGCGTGTTCCTCGTGCCCTCGCATCTACGTTTGTGTACGTGGGCGAGTTGCTCGAA  
AACGTGTTCCCTAGCGATTGGAGAGATTGGCGCGGTGTTGACCAACACGGCGGCGATAACC  
AGCACGACGCTTGCAACGGTGGGCGGAAAGCAGGTTTGTGCGAGCGTGTTCCTCAAGGAG  
GGGAGAGCACAGCGAAAGGAGATCAAGGCTGCGAGGAGGAAGGGTGCGGCGCTCAAGGCG  
GAGGAAGAGAAGGAGAAGGAGAAGGAGAAGGAGAATACAGCGAAAGGAGATCAAGGCTGC  
GAGGAGGAAGGCAGCAGCAACGTGCGCTACCGGTCCGCGTTTACAGACAGACACACTGCGGT  
GACGTTGTGTGTGAATCCAATCGGACCGTGCCCTCCGTGGCAGCGTGTGGCGCGCGAGCAC  
TCTTTTCCGGTGGCAAACAGCAGCAAACAGCAGCAGCAAACAGCAGCAGCACACAGCAGC  
AGCACACAGCAATACACCAATACAGCATAACGATCCAACCGCCAACGCGGCTATCGAGGCG  
CTTCCAACCCACCTGCTCTTGCGCACCTTCTTCTCCACCATCCCTGTCCGACGCGACC  
TCCTCCGTTCCCTCGTCCCCCGTGCTCGTATCGCACTCGCAGCTGGCGTTGCCTCGTCCC  
AGCATCATGTTCCGTAGACCTCTTGCCATCGCACCGCGTGCGCGCGTGCGTCTCGCCTCC  
ACCTCTTCCACCTCCTCCTCCTCCTCCTCCTCCTCCTCCTCCTCCTTCTGCCGGTCAGCGA  
CGCATGTTGGCGAGTCGTTCTGTGCTTCTCGCCGTGACGCTTGCCTGGTGTGCTGCCGCT  
AGCTACACGCTTGTCAAGCCGAGTCTGTACGCCGATGCTCCCGATGCTGTGCCTGGCGAT  
ACTCGTCCACATCCTCTCTGGTCGCCCCCACGCGTGCGCAGATGCTCGACGCACTCAGG  
CAGTCTTCCGCCAACAGTCTCCGCCCAATGCTTCGCGTGACAACTCCCTCAACTCGAGT  
CTTCTCCCTCTCGCCAACCACGCTCCCTCCAGTACCCCTACTCCGCCCGCTTCGCGAGGT  
GGTGTGCGACGACCAAGACGCAGACGGCTTCGACATCCTTGTGTTTGGAGGCGGTGCGACT  
GGCTCTGGGGTTGCGGTGGATGCGGCCACGCGTGGGCTTAGTGTAGCCATGGTTCGAGCGC  
GATGATTTTCGGCGCTGGAACCTTCGTCCAAGTCCACTAAGCTTGTGCATGGAGGCGTTCGA  
TATCTTCAGAAGGCGGTGTTTGAGCTCGACTACGAACAGTACAAGATGGTTCGCGAGGCG  
TTGCACGAGCGAAAGACTTTCCTCCACATTGCTCCTTATCTTTCGGATCATCTGCCCATC  
ATGCTGCCCGTGTACAAGTGGTGGCACATCCCTACTACTGGGCGGGCACCAAGATGTAC  
GACATGCTCGCCGGTTCCGAGAACATGGAGAGCTCGTACGTTCTCGGCAAGGGCAAGGCG  
CTCGAGGCGTTTCCCATGCTCAAGTCTGCCGGTCTCGCTGGTGCCGTCGTGTACTACGAC  
GGTCAGCACAACGACACGCGCATGAACGTGCTCCTCGCCATGACTGCAGTCCACCACGGC  
GCGGTTGTAGCCAACCACACCGAGGTGGTTGCCATTACAAGAAGCGTGTTCGGGGCAGG  
CCCGATCAGATCTGCGGTGCTCGTGTGCGTGATGTGCTCACGGGAGACGAGTGGGATGTC  
AAGTGCAAGTGTCTTATCAATGCAACCGGTCCGTTTTCCGACACGCTGCGAAAGCTCGAT  
GCGCCACGGCTCACGAGATCGTCGCCGCGTCGTCCGGCGTGACATTACGCTTCCGGGC  
TACTTTTCGCCGCGGGATATGGGTCTCATCGACCCGCACACCTCGGATGGCCGAGTGATT  
TTCTTCCCTGCCCTGGCAGGGAAACACGATTGCCGGCACCAACGACACTGCGGCGCGCGTC  
GAGGCGCATCCGCGGCCCAAGGAGGAGGAGATCGAGTGGATTCTGGACGAGGTGCGCAAC  
TATCTCAGCCCGGACATCAAGGTGCGACGTGGCGATGTGCTCAGTGCGTGGTTCGGGTCTT  
CGACCGTTGGTCAAGGATCCTGCCGCCACAGACACGAGTCGCTCGTGCGCAACCACATG  
ATCAACGTGTGCGCAATCGGGTCTGCTCACCATCGCGGGGGGTAAGTGGACGACGTACCGT  
GAGATGGCGGAGCAGACGGTGGACCGCGCCATCCAAGAGTTTGAGCTGAAGCCGCAGCGT  
GGATGCGTGACCAAGAACACACGACTGCTCGGCAGCCACGGGTGGACCAAGACCATGTAC  
GTCAAGCTTCTGCAGCGTTTTTGGTCTGGAGACCGACGTCGCGCGTCACCTCTCCAACACG  
TACGGCGACCGAGCGTGGAGCGTGTGTTCCATCGCCGAGCCACG

TRPHPLWSPPTRAQMLDALRQSSANSRLPNASRDNSLNSSLLPLANHAPSSTPTPPASRG  
GVDDQDADGFDILVVGGGATGSGVAVDAATRGLSVAMVERDDFGAGTSSKSTKLVHGGVR  
YLQKAVFELDYEQYKMOVREALHERKTFLHIAPYLSHLPIMLPVYKWWHIPYYWAGTKMY  
DMLAGSENMESSYVLGKGKALEAFPMMLKSAGLAGAVVYYDQHNDRMNVAMTAVHHG  
AVVANHTEVVAIHKKRVPGRPDQICGARVRDVLTDGDEWDVKCKCLINATGPFSDTLRKLD  
APTAHEIVAASSGVHITLPGYFSPRDMGLIDPHTSDGRVIFFLPWQGNITAGTTDTAARV  
EAHPRPKEEEIEWILDEVARNYLSPDIKVRRGDVLSAWSGLRPLVKDPAATDTQSLVRNHM  
INVSQSGLLTIAGGKWTTYREMAEQTVDRAIQEFELKPPQRGCVTKNTRLLGSHGWTKTMY  
VKLLQRFGLETDVARHLSNTYGDRAWSVCSIAEPT

>FGENESH:[mRNA] 2 5 exon (s) 3383 - 6738 2835 bp, chain +  
ATGGCGCACACCGAGTATCCACCACACAACCACAACGCACAAGCTGCCAAGCAAGCCGGA  
AATGAGTTCTTCCGCAACAACTATGGCCCGAGGCCATCGGCGCGTATACTGCGGCGCAC  
ATGGCCGATCCCACCGAGCCAACATACCCGCTCAACCGTGCCATGGCCTACATCAAGTTG  
GGCAAGTTCGTTCGATGCTGAGCGCGACTGCACCACCGCCCTGCTTCTCTCTCCCAACAAT  
GTCAAGGCGCTCTACCGTAGAGCATCCGCCAGATTGTGCGCCACCAGCCTTCCGAACAAC  
CTTGCTTTGGCGATTACAGATTTAGAGGCCGTCTTGCGCTTGATCCAACCTAACCAGAC  
GCCAAAGCAGCTTTAACAAGCAGCAGCCAAGCTGTTGACGCCGCCAAGCCCAACACAACC  
GATCCGATCCACCTGCAACATCTCACCAATCCACCCGATAGCGTCCCTCGGAAGTCAACC  
ACTCAAGTCGACCTTCCAGCATCCAAAGTGAACACCGCTTCAACCGAGTCAAGCAGCTGC  
GTCGAGGCAGCCAGAACTTCTGCAACACGTTGTACTCAACAAGACAGTGTGTGCATCA  
ACTCGCTCGATTGCGACCAGCGTGGAACACAGCATCCGCGCTCAATTTGCGCGCATCA  
GCTGCACAAACCACTGCTGCACAAACCACTGCTGCGTCGTTGCTCACCAACCAACCCCC  
AGAACGCACAAGGCACCACACAAAATCACAGCTATTGAATTCCACCGCAGATGGAAGAAC  
AAGCGCGAGCGTCTGGCGCTGCTATCATCGCTCGATCCCGAGTCAATACCTCGCATGATG  
GATGCGATGCTTGAGCCCCAACTCGTTGCTGAGATCTTGCAAACACTAGCGCAAGCCAAG  
CGCTGTTGCCCCAACATGGTCATCTCACAAGCCTAGTTGCAGCCATTCTGGCGGCACTT  
GCTCGATGCAAGCGCTTCGGCATGACGGTGTCCATGCTCGACGCCTCTGAAAAGCAAGAT  
GCAGCGTATCTCATTGATGCCATCCGCAGCCACGACTTGAAACGCGTTTGGGAGCGTTGT  
GTTCCAAATGCACCCAAAGTGATGCTGTGCGTGTGCGTGTGCCCGTCCAAGTCGCC  
GTCGTGTTGCTGTCTTGCCCGCCACCAACACCATCTGGGCTCATGCGAACCACTCCCACC  
ACATTGGTTTATCCTCGATTACAGCACAACCCCTCCCGCACTCCCGCCATGTCTCTGCCA  
TCCGCGCCCCGACTACGACTTTAACCCCAACCTCGACGTGCATACCATCGACCCGCCGGTG  
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GACGTGTTGCCTCATTTCCCGTTGCTCAATCTTGACAGGGTGTTCCTCGCTACCCGCCC  
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GCCGCCACACGCATGGCTACGGCCCCGTGTTTGGAGATCCCAAGCTGCGTCACGCCGTC  
GCAAGCGACATCAACCGAGTCTACCGATCCTCTGCAAACGGCGTCAAAAATCAAGTCACC  
CACCACAATGTCGCCATCACTGCTGGCGCCAATCTTGCGTTTAGCGCAGTGGCTACCTCC  
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ACGCTCACCGCGTTTCGGCATCCAAGTTGCCGCCGTGCACACCAAGCCGCCGAATACTTT  
CCCGATGTACACATGATCCGTGCGCTGCTCGCGAGCGACGCCAAAGCTTCCACCAAGACC  
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CTCATCCGACACATTGCCGCACTCTGCAAAAACCATCGAGTCGCCCTCATCTTGATGAA  
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TCTGCCTCACCCCGCTCGCTTGCTTACAACCTTTGCTCGTCCACACGACCTGTTTGAAGAC  
GCCCCCGCCGGTCTAGCAGACGCATGCTGGGATCCAGACTGGGACTGGCGCAACACCCCTC  
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GTGTTTGGTCCTACCGCAAAGGCTCTCGACAACTTCCAAGTTGCTCCCCCCCCGAATCGAC  
ACACAGCGAGCCGTCGCATGGGCAATCCAAGACGCGCAACAGCTCGAATGGCGAAGCCAA  
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GCTCCATTCTCAACCAGCATGCCAGTGCCTCGTTGCGCCTGCGTCCGAGCCAAGCTTG  
GCCAAGTCGCCAGCGAGTGGGGGTGGCACGTGGAGTCAGCCGGTGCCTACTACGTGTTT  
CTGCGACATCCGTTGCTTCCACTCGGTTCGGAGAAGGTGGCGCAAGCACTTGCCGAGCTC  
GTCGGGGTTCGTGGTGTCTCCCGGGCGTTTTTTCATGCCGACCGACGCCGAGAGCACCGGC  
GGGTTCGGCTGGATCGCGGTGCGTGTCTCGGTTGCCAACGTGTCCACCCAAATGCTCGCA  
AACCTTGAGAGAGGCTGGCGATTCTCAGCGAGCTGTGGCACAAAAAGGGCGCTGGCTGG  
GGGATTGCAACATAG

>FGENESH: 2 5 exon (s) 3383 - 6738 944 aa, chain +  
MAHTEYPPHNHNAQAQAGNEFFRNKLWPEAIGAYTAAHMADPTEPTYPLNRAMAYIKL  
GKFVDAERDCTTALLLSPNNVKALYRRASARLCATSLPNNLALAIHDLEAVLRDPTNPD  
AKAALTKARQAVDAAKPNTTDP IHLQHLTNPPDSVPRKSTTQVDLPASKVNTASTESSC  
VEAARNFLQHVVLNKTVCASTRSIRTSVENTASALNFGASAAQTAAQTAAQTFAHQPTP  
RTHKAPHKITAIEFHRRWKNKRERLALLSSLDPE SIPRMDAMLEPQLVAEILQTLAQAK  
RCSPQHGHLSLVAAILAALARCKRFGMTVSMLDASEKQDAAYLIDAIRSHDLKRVWERC  
VPNAPKVMLCVCVRVPVQVAVVVFVSCPPPTPSGLMRTTPTTLVYPRFSTKPSRTPAMSLP  
SAPDYDFNPNLDVHTIDPPVQIGAKWAQSYSSSSPLAAADVLPHPPLLNLAQGVPAHPP  
TAALLHRIQFESRPQNLSSPAAHTHGYGPVFGDPKLRHAVASDINRVYRSSANGVKNQVT  
HHNVAITAGANLAFSAVATSIAAPGDALIVCHPWYFNHHMTLTAFGIQVAHVTKPPEYF  
PDVHMIRALLASDAKASTKTIKGVVLVTPNNTGAIYPPQLIRHIAALCKNHRVALILDE  
TYRDFLLTGSDLDHASQPAASASPRSLAYNFARPHDLFEDAPAGLADACWDPDWDWRNTL  
IQLFSFSKSF AIPGHRLLGGFVAHAALLQQTITDDAGSEKLVFGPTAKALDNFQVAPPRID  
TQRAVAWAIQDAQQLEWRSQIANQLRIRRAFIQALS RPVAPFLNQHASALVAPASEPSL  
AKSPSEWGWHVESAGAYYVFLRHPFASTRSEKVAQALAE LVGVVVLPGAFFMPTDAESTG  
GSAGSRLRVSVANVSTQMLANLAERLAILSELWHKKGAGWG IAT

>FGENESH: [mRNA] 3 1 exon (s) 8151 - 9980 1830 bp, chain +  
ATGAGTGAAAAATCCAACAACGTCGCGCTCGTCATCGACACGAATCGCCAAAGACCGCCT  
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ATCGCTTCGGCCCAAACACCCCCTCGGGCACGGCCGATCCAGCATGGCTCATCTCCAAG  
ATCGACGAATACCTCGCCGAACCTCGACATCCCGCTCGCGCCCATGTTCGAAACCGATGCGC  
CCCACGTTGCGGATCGATGTGAATCCAGACGTGTTGGCGTCGGCGGAACGCGCATTGCCA  
TCGTTCGCCCAGGCGATCCGGGTGTCGAGGCGGATTTTCATCGACCATGTTGCCCGTGGAG  
CGCAAGGTGCGGATGGCGTCGATGGCGACGTGCGCGTTGGATTTCGGACGCGGTGTTTTTG  
TCGCCGTTGTTTTATCGTTCGTTTCAGAGACCCGAGGTGGGGAGTATGGGCGATGACGCC  
GCACCGTTCCCGTACAGTCCGGGCAGAGAATGCGTGTTTCTCGATTTCAGGCTTTTGCACC  
ACTGCGTTGAGCACGGGCGACAGCATTCAGCACAGACAGAGGAGCAACTCGAACGACGCT  
TGGCAGCCGGAACACAACACATGCGAAGCTAGCGAGGCTTGCGAAGCTTGCGAAGCTAGC  
GAGAAGACGCGGTTCGCCGATCAAGCACAGACGAGAAGCAGACGCAAACCATGTTCCAAGC  
ATTGACTTGAAACACCCGACGACGGCGAAGCATCAAGCTGCAACGCTAGCGACGCCCCGC  
GGCGAAACGCCACTCGGTGGCTCATCACCAAGCAAGATGGCGTCGATTTTGGAGTGCGAG  
TCGGGGGCGAGCAGCAAGCGTGTGGATCGGAAGAGTGTGTTGTCGATCTCATTTGACTCG  
AGCTTGTCGGCTGCTATGAGCGATGGGTGAGTTGCAAAAAGCAACAATGGTGGCGGGAGC  
AAGTGACGATGCAGATCGAATCACCCACCATGGCAGCATCCAACCTGTGCTGCATCGTTG  
TGCGTTCCAACGCCACTGCGCTCGCAGACCAACCCACACGGCGCACCCACTCAGCGAAGA  
ACGCTTGGAATATGCCGCTCGGCGTCGGCGGGCAACCTGGTGCAACGCTTCCAACACCCA

CACGTGCTCCACCGAACCGCACCGCAAAAGCTGGCACCAACCATCTCAGACCTGTGCACT  
ACGAACCGAACCAAGCAACCCACCCGCACCAACCAACGCTCGCCAACACTGCTAAAACCC  
AACGCGCCAAACACCTCGCCGACGAGCACACAAATCGTAGAAGGCGTGCGCAAGATGAAC  
AAGCTCAAAAAGCTTCTCGGGCAGCAAGTAAGCACACACATCTCGAAGCAATCGTGCGCG  
CTCGGGCGTCACACCCGCCACCAACGTACGAGGCGACGTGATGAAACCACTGCCATATCTG  
CCGCCACTTGGATCGCTCCAACGCAGCAACACTGCGGGCATCCAAATGGGCAAAAAGACC  
ATGCTGGGATCGCACAAACCACGCGAGAAGAAACACTGCATCGCATCCGCTTCCACGAGT  
GGTACGGGTGACCGTCGACGGCGAGCGAGACGCGATGCACGTGTTTGAACCTGCGATGCG  
ACGCAGCGTGTGCTGGGCTCGGCGTTGGCGGGAGCGGGTATGCGATTGGGAGCATCTCAT  
ACACTGCGTCGACCCAACACGTCGGCATCGGTGAGGGCGAGATCGATACGCAGCGGCGGA  
GGGTTTGTGGAGATGGATGAATATATATGA

>FGENESH: 3 1 exon (s) 8151 - 9980 609 aa, chain +  
MSEKSNVALVIDTNRQRPPRHLEPTRLGTAEHSPDTSCSSTTTLWSSSISQTPSTSTT  
IASAQTPHSGTADPAWLISKIDEYLAELDIPLAPMSKPMRPTLRIDVNPDLASAERALP  
SSPEAIRVSRRISSTMLPVERKVRMASMATSPLDSDAVFLSPLFYRSFQRPEVGSMDDA  
APFPYSPGRECVFLDSGFCTTALSTGDSIQHRQRSNSNDAWQPEHNTCEASEACEACEAS  
EKTRSPIKHRREADANHVPSIRLETDPDDGEASSCNASDARGETPLGGSSPSKMASILECE  
SGASSKRVDKSVLSISFDSSLSAAMSDGSVAKSNNGGSKCTMQIESPTMAASNCAASL  
CVPTPLRSQTNPHGAPTQRRTLGLCRSASAGNLVQRFQHPVHLHRTAPQKLAPTISDLCT  
TNRTKQPTRTNQRSPTLLKPAPNTSPTSTQIVEGVRKMNKLKLLGDEVSTHISKQSCA  
LGVTPATNVRGDVMKPLPYLPPLGSLQRSNTAGIQMGKKTMLGSHKPREKKHCIAASTS  
GTGRPSTASETRCTCSNCDATQRVLGSAAGAGMRLGASHTLRRPNTSASVRARSIRSGG  
GFVEMDEYI

>FGENESH: [mRNA] 4 1 exon (s) 11324 - 11614 291 bp, chain +  
ATGTCGTCCGAACGCGAGCCTCTCCTCCCCACCCACGCCCGTCACGCGCGTCAGAGCGTC  
GAGCAGTACCGCAACAAGGCTGTGCACGATGCCAAGTCAGCCGCTCGCCAGTATGGTGTC  
GATCCCGACAACCTCGCCGAGCACGCACGTACATCGCCCCCTCCCGCCACACCCTTGCC  
CACATCGCCACATGGTCGGTGCCGTCAAGGCCGGCAAGCTCCCCAGCCAGAGCCAGCTC  
AACTCGTTTCATCGAGTCCCTCATGTCCAGCCCCGTCTCGACGAGCGCTCC

>FGENESH: 4 1 exon (s) 11324 - 11614 97 aa, chain +  
MSSEREPLLPTHARHARQSVEQYRNKAVHDAKSAARQYGVDPDNLAEHARHIAPSRHTLA  
HIAHMGAVKAGKLPSQSQLNSFIESLMSSPVLDERS

预测到完整基因个数：2个

第三段基因起始密码子：8151-8153，终止密码子：9978-9980

其中外显子个数：1个，内含子个数0个