**Rice tungro bacilliform virus ORF2, ORF3, and ORF4 genes, complete cds**

GenBank: M65026.1

FASTA Graphics

Go to:

```
LOCUS       RTUORFS                 5028 bp    DNA     linear   VRL 28-JUN-1996
DEFINITION  Rice tungro bacilliform virus ORF2, ORF3, and ORF4 genes,
            complete
            cds.
ACCESSION   M65026 REGION: 994..6021
VERSION     M65026.1
KEYWORDS    .
SOURCE      Rice tungro bacilliform virus
  ORGANISM  Rice tungro bacilliform virus
            Viruses; Riboviria; Pararnavirae; Artververiricota; Revtraviricetes;
            Ortervirales; Caulimoviridae; Tungrovirus; Tungrovirus oryzae.
REFERENCE   1  (bases 1 to 5028)
  AUTHORS   Qu,R.D., Bhattacharyya,M., Laco,G.S., De Kochko,A., Rao,B.L.,
            Kaniewska,M.B., Elmer,J.S., Rochester,D.E., Smith,C.E. and
            Beachy,R.N.
  TITLE     Characterization of the genome of rice tungro bacilliform virus:
            comparison with Commelina yellow mottle virus and caulimoviruses
  JOURNAL   Virology 185 (1), 354-364 (1991)
   PUBMED   1926781
REFERENCE   2  (bases 1 to 5028)
  AUTHORS   de Kochko,A.
  TITLE     Direct Submission
  JOURNAL   Submitted (01-JAN-1991) Cell biology, TSRI, 10666 N. Torrey Pines
            Rd., La Jolla, CA 92037, USA
COMMENT     On Jun 26, 1996 this sequence version replaced gi:333965.
FEATURES             Location/Qualifiers
     source          1..5028
                     /organism="Rice tungro bacilliform virus"
                     /mol_type="genomic DNA"
                     /db_xref="taxon:10654"
     CDS             <1..4
                     /note="ORF2"
                     /codon_start=2
                     /protein_id="AAB03093.1"
                     /translation="MSADYPTFKEALEKFKNLESDTAGKDKFNWVFTLENIKTAADVN
                     LASKGLVQLYALQEIDKKINNLTTQVSKLPTTSGSSSAGAIVPAGSNTQGQYKAPPKK
                     GIKRKYPA"
     CDS             1..5028
                     /note="ORF3"
                     /codon_start=1
```

/protein_id="AAB03094.1"
/translation="MSLRPFTGTSRTITQDSTSESNIKKGKNSTKRELIEEVDVNQEV
ENFDWKKLSGIKPNKLYEKNWQEKVKLKQQSIVSAYKEEAISVTHNAYTTTLFPQEVI
KNVKNQGKLYYHIGMMAIGVKGLHRRKIGTKVMIMFYDDSFGKAREASIGSIEMDMNA
GCGVFYSCPDFAKYIKDLSHLKIGIQTLGYENYEGKNLSVAIKTIGRLTTNIQSKYKI
NVKDIVEQISSQGIIMVAPMEIDSSHLDGNEWDLSKFLNHENTSRVPTKALIYQNLQG
GESLRFSNYKQTRMHDPTENNSDEDEDLKILGEQLNIKMARFYTMQTPEEELREVIQQ
LEREKQAMIAKLEAKMKESSKMAIVEDNFNPNNEYLEDTYSEYEDLEFEKLGLTGWED
LDQDSIETEEITEWENPNQVLHREIRAYKSVSEQIEDIFGELLKEHGNYDMALKNLEE
KYDLDKIEKAKSIEEIAKSSTSSEIRPTKRPKEEQTAYEDDMRDDWKRKELTVNPIEA
SKDRNFERIGSSYKKNFYPSRSEILNLDNVPPQFYYDQLVTWEGIVKNEWEARKKDGM
DMWSWMDGRITGLVLYLVQDWISKNQAAYNDIKSRGDRPENFVKMVKDRFLIEDPTDE
RRTALQRLAQRELEALNCEDPTKIQPFMAEYLKKASEAKKGFDVVYVERLFDRLPEAV
GKVVKADFVKDGNSYEAGIGIAVSYISTWMRAKCIKETEAKTQKKASLAFCRSIYTIG
DYKKRKILKRVTNYNKNRRKNYVRRPSIKKKCRCYICQDENHLANRCPRRYTNQARAS
LIDGLDEDIVSIASDDEDIENFLEIIELDEFIAHSSQEHEHTWEIGGKKDKVCEICSY
FTDYNKTVSCKTCETQYCKTCSDQLALEVTEVKKPTKEETMIDDLKLNVKNLEFRVTI
LEHKVEMQNLQDKFETMQIRNKSEITEIPTTSLAMRANESNYIKTSINKTAGCYVETK
ISFNNENRIITALIDSGSTHNIICPTLIPASWINNTHREIIMFAVDNSKYNLNQELID
DIKLQFQEVDETFGIKYKLGQTYVAPKPTKTFIIGHRFLTNENGSVTIHKDYITIQKT
TGIYPTARHELKSEFARKHGGRPPLFSNIPETYNKIPHLHSYQPQPILGYKNEIGNQS
LITMVKELEALGFIGDDITKNRTTWVCDFKIINPDINITCATIPYTPADKEVFEKQIK
ELLDNKLIKKADPTCRHRTAAFIVRNHSEEVAQKPRIVYNYKRLNDNMHTDPFNIPHK
ISMINLIQKANIFSKFDLKAGFHHMKLKDEFKDWTTFTCSEGLYTWNVCPFGIANAPC
AFQRFMQESFGDLKFALLYIDDILIASNNEKEHIEHLKIFFNRVKEVGCVLSKKKSKM
FLKEVEYLGVEIKEGKISLQPHIVDKIKKFDKNKLNTLKGLQAYLGLLNYARGYIKDL
SKLVGPLYKKTGKNGQRIFNKEDWNIIFKIEREVSKIKPLERPKETDYIIIETDASEE
GWGAVLVCKPDKYSGKDTEKIAGYASGNFGEKKTWTSLDYEIEAINEALNKFQIYLDK
DFTIRTDCEAIVKGIKTEDYKKRSKTRWIKLRDNLLKDGYKPTFEHIKGNKNFLPNFL
SREGDFILKCLQNPDSTESHSIDSPESIPLYIDSKESHSIESDDSIPLYRDKLLPLVE
RLKEKSA"

ORIGIN

```
      1 atgagcctta gaccatttac tggtacttct agaactataa cccaagattc aacctctgaa
     61 tctaatataa aaaagggaaa aaactcaaca aaaagagaat taatagaaga agtagatgtt
    121 aatcaagaag tagagaactt tgattggaaa aaactatcag gaattaaacc taataaacta
    181 tatgagaaaa attggcaaga aaaggttaag ttaaaacaac aatccatagt ctcagcatat
    241 aaagaagaag ctattagtgt aactcataat gcatatacta ctactttatt tccacaagaa
    301 gtaattaaaa atgttaagaa tcagggaaaa ctttattatc atataggcat gatggccata
    361 ggagttaaag gacttcatag aagaaaaata ggaactaaag tcatgataat gttttatgat
    421 gatagtttcg gtaaagctag ggaagctagc attggatcaa tagaaatgga tatgaacgcc
    481 ggttgtggag tgttctactc ctgccccgac tttgcaaaat atattaaaga tttatcacac
    541 cttaagatag ggatacaaac cctaggatat gaaaattatg aaggaaagaa cctttcagta
    601 gcaatcaaaa ctataggaag attgaccacc aatatacaat caaaatataa gataaatgtg
    661 aaagatattg tagaacagat atcatcacaa ggaatcatta tggtagcacc catggaaata
```

721 gattcatcac acctagatgg gaatgaatgg gatcttagta aattcttaaa ccatgaaaac
781 acaagtagag tcccaaccaa agccttaata tatcagaatt tacaaggagg agaatcctta
841 agattttcaa actataaaca aactagaatg catgatccta ctgaaaacaa ttcagatgaa
901 gatgaagatt taaaaatctt aggagaacaa ctaaatatta aaatggcaag attttacaca
961 atgcaaaccc cagaagaaga attacgagaa gtaattcaac aattagaaag agaaaaacaa
1021 gccatgatag caaaactaga agctaaaatg aaagagtcat ctaaaatggc aatagtagaa
1081 gataatttca atccaaataa cgaatatcta gaagatacat attctgaata tgaagatcta
1141 gaattcgaga aattaggatt aactggatgg gaagacttag atcaggattc catagaaacc
1201 gaagaaataa ctgaatggga aaatcctaat caagtacttc atagagaaat tagagcatat
1261 aaatcagtat ccgaacaaat agaagatata ttcggagaac tactaaagga acacggaaac
1321 tatgatatgg ccctcaaaaa cctagaagaa aaatacgacc tagataaaat agaaaaggcc
1381 aaatctatag aagaaatagc taagtcatct acatcgtcag aaattaggcc aactaaacga
1441 cctaaagaag aacaaacagc ctatgaagat gatatgagag atgattggaa aagaaaagaa
1501 ttaacagtaa atcccataga agcctcaaaa gatagaaatt ttgaaagaat aggaagttca
1561 tataagaaaa acttttaccc tagtagaagt gaaatattaa acctagataa cgttccccca
1621 caattttact atgatcaact agtaacctgg gaaggaatag ttaaaaatga atgggaagca
1681 cgtaagaaag atgggatgga tatgtggtct tggatggatg gtagaataac aggattagtc
1741 ctatacttag tccaagattg gatatctaaa aatcaggcag cctataatga tataaaatct
1801 agaggtgata gacctgaaaa cttcgtaaaa atggtaaaag ataggttctt aatagaagat
1861 cctacagatg aaagaagaac agcattacaa aggttagcac aaagagaatt agaagcctta
1921 aactgcgaag atcctactaa aattcaacca tttatggctg aatatcttaa gaaagcatca
1981 gaagccaaaa aaggatttga tgtagtttat gtagaaagac tctttgatag attaccagaa
2041 gctgtaggaa aggtagtaaa agcggacttt gttaaagacg gtaattctta tgaagcagga
2101 ataggaatag cagtttcata tatatccaca tggatgagag caaaatgcat taaggaaaca
2161 gaagctaaaa ctcaaaagaa agcatcctta gcattctgta gatccatata tactatagga
2221 gattataaga aacgaaaaat cctaaaaaga gttacaaact ataataaaaa taggagaaaa
2281 aactatgtca gaagacctag catcaagaaa aaatgtagat gttatatctg tcaagatgaa
2341 aatcacctag ctaatagatg tcctagaaga tatactaatc aggctagagc aagtctaata
2401 gatggattag acgaagatat agtatctata gcatcagatg acgaggatat tgaaaatttt
2461 cttgaaataa tagaacttga tgaatttata gcacattcta gtcaagaaca tgaacataca
2521 tgggaaatcg gaggaaagaa agataaggta tgtgaaattt gcagttattt tacggattat
2581 aataaaactg ttagctgtaa aacttgtgaa acccaatact gcaaaacatg ttctgatcaa
2641 ctagcactag aagtaacaga agtcaaaaaa cctacgaaag aagaaacaat gatagacgac
2701 ctaaaattaa atgttaaaaa tctagaattt agagtcacca ttctagaaca taaggtagaa
2761 atgcagaatc ttcaagataa attcgaaact atgcaaatta gaaataaatc agaaataaca
2821 gaaataccaa caacctcatt agctatgaga gcaaatgaat caaattatat aaaaacatca
2881 attaataaaa ctgcaggatg ttatgtagaa acaaaaattt catttaacaa tgaaaacaga
2941 atcataacag ccctaataga ttcaggatca acacataata taatatgtcc aacattgata
3001 ccagcatcat ggattaataa tacacataga gaaattataa tgtttgctgt agacaatagc
3061 aaatataatc tgaatcaaga attaatagat gatataaaat tacaattcca agaagttgat
3121 gaaacttttg gaataaaata taaattagga caaacctatg tagcacctaa gccaacaaaa
3181 acatttataa taggacacag attccttaca aatgaaaatg gtagtgttac aatccataaa
3241 gattatataa ctatacaaaa aactacggga atatacccaa cagccagaca cgaacttaaa
3301 tcagagtttg cgcgaaagca tggtggacgc ccgccattat tttcaaacat tcctgaaacc

```
3361 tataacaaaa ttcctcattt gcattcatat cagcctcaac caatattagg atataagaat
3421 gaaataggaa atcaaagttt aatcactatg gtgaaagaat tagaagcact tggattcata
3481 ggagatgaca ttactaaaaa cagaacaacg tgggtatgtg acttcaaaat cataaaccca
3541 gatatcaata taacttgtgc aacaattcca tacacgccag cagataaaga agtttttgaa
3601 aaacaaatta aggagttact agataataag ttaatcaaga aagctgatcc aacatgtaga
3661 catagaacag cagcattcat agtaagaaat cattctgaag aagtagctca gaaacctcga
3721 atagtttata actataaacg tttaaatgat aatatgcata cagatccttt taatattcct
3781 cataagattt caatgattaa tctaatacag aaagctaata tattttctaa gtttgatcta
3841 aaagcaggat ttcaccatat gaaattaaaa gatgaattca aagattggac tacttttaca
3901 tgctcagaag gattatatac ttggaacgtc tgtccatttg gtatagctaa cgctccttgt
3961 gcatttcaaa gatttatgca ggaatccttt ggagatttaa agtttgcatt attatatata
4021 gatgacatac ttattgcatc taataacgaa aaagagcata tagaacatct taagattttc
4081 tttaatagag taaaagaagt aggatgtgtt cttagtaaga aaaaatcaaa aatgtttctt
4141 aaagaagtag aatatcttgg agtagaaatt aaagaaggaa agattagtct tcagccgcat
4201 atagttgata agatcaaaaa atttgataaa aataaactca acaccctaaa gggactacaa
4261 gcatatctag ggttactcaa ttatgccaga ggatacatca aagacctatc aaagctagta
4321 ggaccacttt ataaaaagac aggaaaaaat gggcaaagaa tctttaacaa agaagattgg
4381 aatatcatct ttaagataga aagagaggta tcaaagataa agcctttaga aagacctaaa
4441 gaaaccgact acatcattat agagacagat gcgtcagaag aaggctgggg agcagtctta
4501 gtctgtaagc cagataaata tagtggcaag gacactgaga aaatagcagg atacgcatca
4561 ggaaactttg gagagaagaa aacctggact agtttagatt atgaaataga agctataaat
4621 gaagccctaa acaagttcca gatatactta gacaaagatt ttacaatcag aactgattgt
4681 gaagcaatag tgaaagggat aaaaacagaa gactataaaa agagatcaaa aacaaggtgg
4741 atcaagttaa gagataatct cttaaaggat ggatacaagc ctacctttga gcatatcaag
4801 ggaaacaaaa acttttacc aaacttctta tcccgtgagg gagattttat tttaaaatgt
4861 cttcaaaacc ccgattctac ggaatcacat tctatagatt cgccagaatc aattccacta
4921 tatatcgatt cgaaagaatc acattctata gagtctgatg actcaattcc actatacagg
4981 gacaagcttc ttcctctagt cgaaaggcta aaggaaaaga gtgcctaa
```

//