The presence of Citrus tristeza virus (CTV) has previously been reported in citrus growing regions of Turkey. All serologically and biologically characterized isolates including I d r, which was the first identified CTV isolates from Turkey, were considered mild isolates. In this study, molecular characteristics of the I d r isolate were determined by different methods. Analysis of the I d r isolate by western blot and BD-RT-PCR assays showed the presence of MCA13 epitope, predominantly found in severe isolates, in the I d r isolate revealing that it contains a severe component. For further characterization, the coat protein (CP) and the RNA-dependent RNA polymerase (RdRp) genes representing the 3’ and 5’ half of CTV genome, respectively, were amplified from dsRNA by RT-PCR. Both genes were cloned separately and two clones for each gene were sequenced. Comparisons of nucleotide and deduced amino acid sequences showed that while two CP gene sequences were identical, two RdRp clones showed only 90% and 91% sequence identity in their nucleotide and amino acid sequences, respectively, suggesting a mixed infection with different strains. Phylogenetic analyses of the CP and RdRp genes of I d r isolate with previously characterized CTV isolates from different citrus growing regions showed that the CP gene was clustered with NZRBTH30, a resistance breaking isolate from New Zealand, clearly showing the presence of severe component. Furthermore, two different clones of the RdRp gene were clustered separately with different CTV isolates with a diverse biological activity. While the RdRp-1 was clustered with T30 and T385, two well-characterized mild isolates from Florida and Spain, respectively, the RdRp-2 was most closely related to NZRB-G90 and NZRB-TH30, two well-characterized resistance breaking and stem pitting (SP) isolates from New Zealand confirming the mixed infection. These results clearly demonstrated that the I d r isolate, which was previously described as biologically a mild isolate, actually contains a mixture of mild and severe strains.