

Presence of double-stranded RNA and virus-like particles in *Phaffia rhodozyma*

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Four double-stranded RNA (dsRNA) molecules were isolated from *Phaffia rhodozyma* UCD 67-385. Their molecular sizes were approximately 4.3, 3.1, 0.9 and 0.75 kilobase pairs (kbp) as determined by agarose-gel electrophoresis and they were designated as L, M, S1 and S2, respectively. By differential centrifugation in sucrose gradients, these dsRNAs copurified with isometric virus-like particles 36 nm in diameter. A cured strain, UV-S2, lacking the S2-dsRNA was obtained from *P. rhodozyma* UCD 67-385 by ultraviolet (UV) light treatment. UV-S2 strain contains identical virus-like particles to those from the wild-type strain, as determined by electron microscopy, suggesting that the S2-dsRNA was not essential for the expression of mycovirus structural polypeptides. On the other hand, both the UCD 67-385 and UV-S2 strains were able to kill *P. rhodozyma* UCD 67-383, a strain without dsRNAs. These results suggest that the dsRNA molecules also encode a killer system. Finally, the UV-S2 strain mainta