

# Biochemical Mechanisms of Suppression of RNA Interference by Plant Viruses

R. T. Omarov\* and R. I. Bersimbai

*Gumilev Eurasian National Institute, ul. Munaitpasova 5, 10008 Astana, Kazakhstan; E-mail: romarov@gmail.com*

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**Abstract**—RNA interference (RNAi) plays an important biological role in regulation of gene expression of eukaryotes. In addition, RNAi was shown to be an adaptive protective molecular immune mechanism against viral diseases. Antiviral RNAi initiates from generation of short interfering RNAs used in the subsequent recognition and degradation of the viral RNA molecules. As a response to protective reaction of plants, most of the viruses encode specific proteins able to counteract RNAi. This process is known as RNAi suppression. Viral suppressors act on various stages of RNAi and have biochemical properties that enable viruses to effectively counteract the protective system of plants. Modern molecular and biochemical investigations of a number of viral suppressors have significantly expanded our understanding of the complexity of the nature of RNAi suppression as well as mechanisms of interaction between viruses and plants.

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