

## Nucleotide sequence of a hop stunt viroid isolate from the German grapevine cultivar 'Riesling'

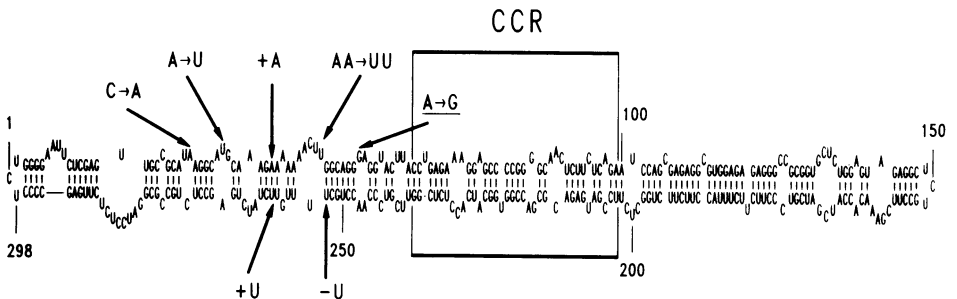
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Origin:

A viroid has been isolated from a symptom-free and healthy-looking grapevine clone of the classical German white wine cultivar "Riesling" which is predominately grown in the Moselle Valley and the Rhine Valley (hocks). The viroid could be transmitted to and propagated in the cucurbit *Benincasa hispida*, where it causes symptoms characteristic for hop stunt viroid (HSV). Viroid purification and reverse transcription of the RNA by primer elongation were performed as previously described (1,2). The sequence analysis of the overlapping cDNAs according to Maxam and Gilbert revealed that the viroid is, in fact, a grapevine isolate of hop stunt viroid (HSV-grapevine).

Sequence:Comments:

The German HSV-grapevine consists of 298 nucleotides which can be arranged into the viroid-specific rod-like secondary structure. It differs from the Japanese HSV-grapevine (3) in 7 positions, and from the HSV type strain from Japanese hops (3) in the same positions plus the underlined one as indicated in the figure. All these mutations are located within or adjacent to a domain which corresponds to the so-called "virulence-modulating" region of PSTV (1). CCR: central conserved region.

References:

1. Schnölzer, M. et al. (1985) *EMBO J.* 4, 2181-2190.
2. Tabler, M. et al. (1985) *Biosci. Rep.* 5, 143-158.
3. Sano, E. et al. (1986) *J. Gen. Virol.* 67, 325-328.