15

Trichovirus Isolation and RNA Extraction

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1. Introduction

1.1. Trichoviruses: A New Plant Virus Genus

The genus Trichovirus, a newly established plant virus genus ***(1)***, contains five viral species (including three tentative members), with similar biological, morphological, physicochemical, and ultrastructural properties. Apple chlorotic leaf spot virus (ACLSV) and potato virus T (PVT) are definitive members of the genus ***(2,3)***, whereas *heracleum* latent virus (HLV) ***(4)***, grapevine virus A (GVA), and grapevine virus B (GVB) ***(5,6)*** are regarded as putative members.

ACLSV, the type-member of the Trichovirus genus, has previously been classified in the closterovirus group, according to the morphology of its flexuous and filamentous viral particle ***(7)***. ACLSV was the first clostero-like virus whose complete genome was sequenced and genomic organization determined ***(8,9)***. When molecular information became available on other closteroviruses ***(10,11)***, it became evident that there were differences in genome properties and structure between ACLSV and beet yellows virus (BYV), the type-member of the closterovirus group. Those molecular differences, when added to the differences in particle and genome length, vector transmission, and cytopathic inclusions, led to the establishment of a new viral genus called Trichovirus ("tricho" from the Greek "thrix," meaning hair), which was approved by the ICTV committee at the Ninth International Congress of Virology, Glasgow, 1993.

Most of the individual species of the trichovirus genus are fairly well-characterized biologically and physicochemically.

Complete sequence data is available for two strains of ACLSV ***(8,12)***; whereas only partial sequences are available for PVT, GVA, and GVB ***(13,14)***, and none for HLV.

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