

# Viruses Harm More Than Just People



TEST FOR:

**Hop Latent Viroid**  
**Lettuce Chlorosis Virus**  
**Cannabis Cryptic Virus**



**SCREEN INCOMING CLONES**



**CHECK MOMS BEFORE  
TAKING CLONES**



**PROTECT GROW ROOM WITH  
PERIODIC SCREENS**



**INCREASE YIELD**

The PathoSEEK® Cannabis Virus Multiplex Detection Assay is a reverse-transcriptase quantitative PCR (RT-qPCR) assay that screens for the presence of Hop Latent Viroid, Lettuce Chlorosis Virus, and Cannabis Cryptic Virus. Screen for three viruses proven to infect cannabis in peer reviewed research for the price of one!

**GET STARTED BY CONTACTING**



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# Screen for Three Viruses and Viroids in One Test

The PathoSEEK® Cannabis Virus Multiplex Detection Assay is a reverse-transcriptase quantitative PCR (RT-qPCR) assay that screens for the presence of Hop Latent Viroid (HLVd), Lettuce Chlorosis Virus (LCV), and Cannabis Cryptic Virus (CCV).

## Signs of Hop Latent Viroid

During the vegetative stage, plants will grow shorter with smaller leaves and tighter node spacing. Flowering plants will have smaller looser buds with much fewer trichomes. It is estimated that plants infected with HLVd produce half the cannabinoid content of healthy plants.

## Signs of Lettuce Chlorosis Virus

LCV can cause plants to have stunted growth, but may not show visual signs until a few weeks into flowering. Those visual signs of LCV infection include yellow, rolling, brittle leaves. While the infection does not kill cannabis and hemp plants, it significantly affects yield. Plant will produce smaller flowers with fewer trichomes, cannabinoids, and terpenes.

## Signs of Cannabis Cryptic Virus

CCV has been identified in plants showing symptoms of “hemp streak” disease. However, researchers were not able to find a causal relationship between the virus and leaf streaking. More research needs to be done to determine if interaction with other biotic or abiotic stresses triggers symptoms.

## Why test for three viruses? I'm only interested in HLVd.

HLVd is the most well-known and most-studied cannabis virus, but it is not the only one. Researchers have also identified LCV and CCV in cannabis and hemp plants. The PathoSEEK® Cannabis Virus Multiplex Detection Assay screens for all three for the price of one!

Testing for just one target means you may miss other infected plants, and risk further spread. Viruses can also co-infect. For example, one grower used the assay to screen 80 mother plants and found that 65 and 15 mothers tested positive for LCV and HLVd, respectively.



Malformed leaves caused by Hop Latent Viroid on a plant growing vegetatively



Yellow, curled leaves caused by Lettuce Chlorosis Virus on flowering plant

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