Resource Summary Report

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Fingerprinting aquatic virus communities using pulsed field gel electrophoresis (PFGE)

DOI:10.17504/protocols.io.dy27yd
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Proper Citation

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Protocol Information

URL: https://dx.doi.org/10.17504/protocols.io.dy27yd

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Group: VERVE Net

Summary: The viral concentrate used for PFGE analysis must be molded into plugs, followed by lysis of the virus particles to release their DNA. It is possible to run solution-based preparation of viral DNA for PFGE (Steward 2001); however, large DNA molecules (>100 kb) are extremely sensitive to mechanical shearing in aqueous solution (Bouchez and Camilleri 1997). The consensus is that lysis inside viral plugs prevents mechanical shearing of the DNA, resulting in more discrete PFGE bands. Intact viral genomes are then separated by size by PFGE. After separation, the banding pattern is visualized by staining with a fluorescent DNA stain. This banding pattern provides a visual record of the genome size distribution that can be used for qualitative and quantitative comparisons between samples.

Affiliations: Manual of Aquatic Viral Ecology, Manual of Aquatic Viral Ecology, Manual of Aquatic Viral Ecology

External URL: http://www.aslo.org/books/mave/MAVE_009.pdf

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