

Resource Summary Report

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Wet-mount Method for Enumeration of Aquatic Viruses

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Protocol Information

URL: <https://dx.doi.org/10.17504/protocols.io.c8pzvm>

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Summary: Purpose: This method for the enumeration of aquatic viruses is a low-cost alternative to the commonly used filter-mount method. Briefly, fluorescently-stained samples are wetmounted directly onto slides for epifluorescence microscopy after an optional chemical flocculation concentration step used for samples with anticipated virus concentrations of 7 viruses mL⁻¹ (samples with >5×10⁷ viruses mL⁻¹ do not require this concentration step prior to analysis). Virus concentration in the wet-mounted sample is determined from the ratio of viruses to microsphere beads, which are added at a known concentration. This wet-mount method for enumerating viruses is significantly less expensive than the filter-mount method (i.e., the cost of microsphere beads per sample is ~500-fold lower than the cost of one filter per sample), and is appropriate for rapid, precise and accurate enumeration of aquatic viruses over a wide range of viral concentrations encountered in field and laboratory samples. The only limitation of this method is that samples with virus concentrations <1×10⁶ viruses mL⁻¹ cannot be enumerated, as the abundance of viruses is too low for efficient enumeration. Figure 1. Overview of the wet-mount method for enumeration of aquatic viruses.

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