



# NEW METHODS TO QUANTIFY VIRUS GROWTH AND INFECTION SPREAD

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Condition: New. Publisher/Verlag: VDM Verlag Dr. Müller | Virus production was studied at the single-cell level by quantifying yields of vesicular stomatitis virus from infected baby hamster kidney cells. Single-cell yields spanned from 8000 to below the detection limit of 10 virus particles. Although viral genetic variation contributed little to the diversity, cells infected at different phases of their growth cycle produced from 1400 to 8700 virus particles, accounting for the middle-to-high range of the yield distribution. In another study, fluid flows were employed to enhance virus spread, producing elongated regions of cell death shaped like comets. Inhibition of comet formation by 5-fluorouracil, combined with quantitative imaging, provided a measure of drug susceptibility that was nearly 20-fold more sensitive than the established assay. To better control the culture and flow conditions, we implemented this assay in microscale channels, employing passive pumping to drive flows across infected cells. The greater sensitivity, reduction in scale, simplified fluid handling, and image-based quantification make this flow-enhanced infection platform attractive for applications in high-throughput drug screening. | Format: Paperback | Language/Sprache: english | 112 pp.



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