

DEVELOPMENT OF A SURFACE-BASED ASSAY FOR MONITORING INFLUENZA VRNP REPLICATION

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Influenza A virus (IAV) is a globally significant respiratory pathogen responsible for seasonal epidemics and occasional pandemics associated with substantial morbidity and mortality. Its high mutation rate and frequent genetic reassortment enable rapid escape from existing antiviral therapies, underscoring the need for new therapeutic strategies. Current high-throughput assays for screening inhibitors of the influenza polymerase rely predominantly on cell-based systems. As a result, compounds that directly target the native viral replication machinery but lack activity in a cellular context may be overlooked, despite their potential as starting points for antiviral development. Here, we describe a surface-based fluorescence assay that measures the replicative activity of the viral polymerase within virion-derived viral ribonucleoprotein complexes (vRNPs). By preserving the native architecture and function of the viral replication machinery while eliminating the complexities of cell-based assays, this platform enables direct measurement of influenza polymerase activity in a multi-well format compatible with high-throughput screening.

Keywords

Professional status of the speaker

PhD student

Junior scientist status

No, I am not a junior scientist.

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