

UTILISATION OF CAPACITANCE MEASUREMENT (DIELECTRIC SPECTROSCOPY) TO MONITOR, CONTROL AND IMPROVE VIRAL VECTOR AND VIRUS-BASED VACCINE PRODUCTION

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With the increasing development of viral vector and virus-based vaccines, technologies which help to manufacture and scale-up these types of vaccines quickly and cost-effectively have become more critical. This presentation will explore the use of in-line capacitance technology to produce a detailed fingerprint of cell culture processes and the benefits this brings to vaccine production. Using case studies with baculovirus, AAV and measles virus, it will cover how using capacitance can help determine the optimum harvest time and increase maximum virus concentration to produce more vaccine doses using smaller bioreactors. For instance, it was observed that the capacitance-based method increased maximum virus concentration by more than 3 orders of magnitude. The presentation will also highlight how to use capacitance as a key process indicator for improving scale-up success to reduce the costs and timelines of viral vector and virus-based vaccine production. The potential of using the technology to measure viral titer directly and in real time will be discussed.