

Multi-Parametric Quantification of Monocytes using Live-Cell Analysis

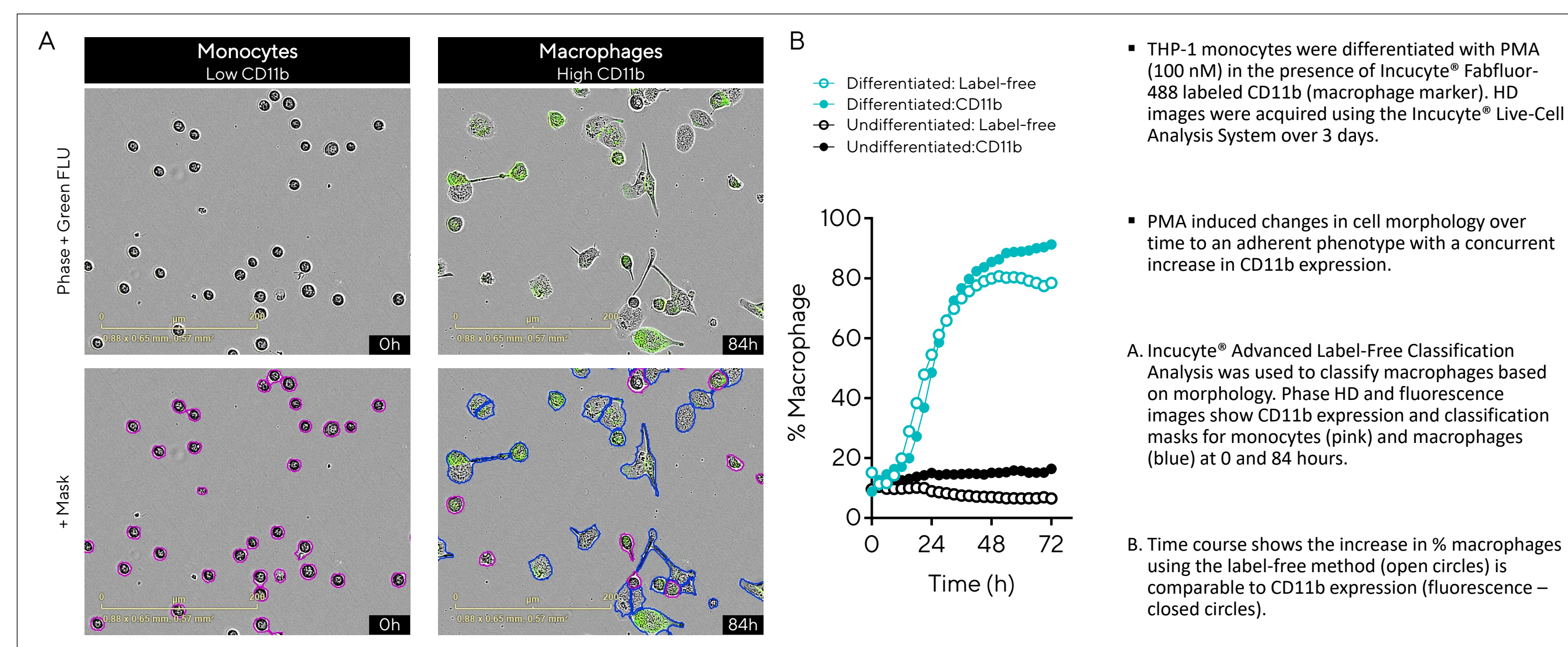
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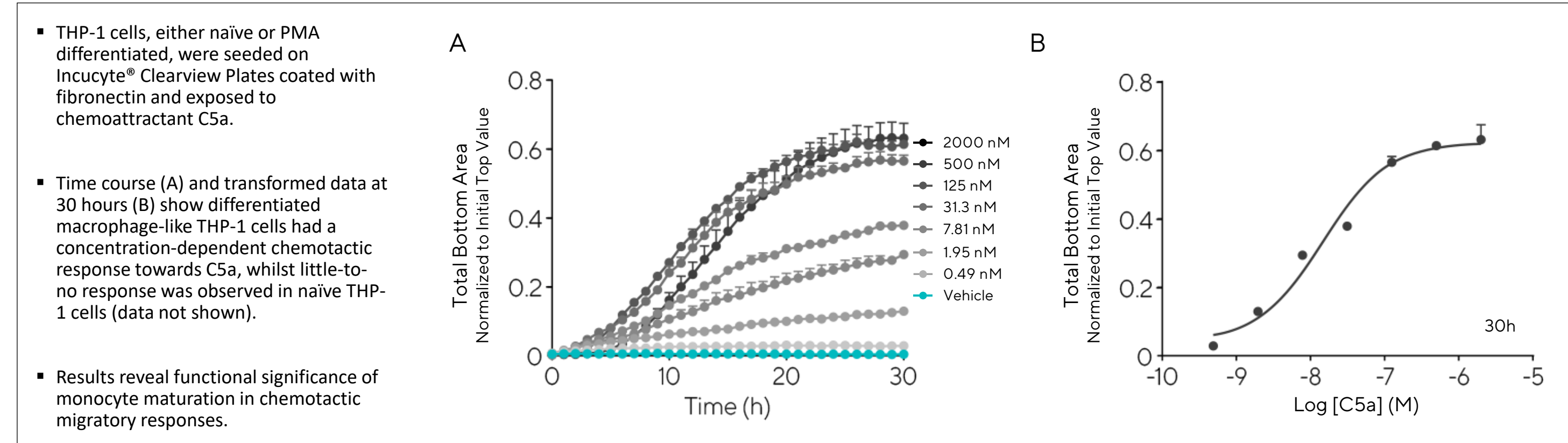
Introduction

- Monocytes play critical roles in innate immunity by migrating to inflamed tissue, where they clear micro-organisms and apoptotic cells, repair injured tissues, and recruit other immune cells.
- These highly plastic cells can change their functional phenotypes in response to a variety of cellular signals, including the Akt signaling pathway.
- Here we provide robust *in vitro* assays for the kinetic evaluation of monocytes and exemplify how these further our understanding of their biological roles.
- The Incucyte® Live-Cell Analysis System was used to acquire phase and fluorescence images of monocytes, which were automatically analyzed using integrated software.
- Cytokine analysis was performed using the iQue® Advanced Flow Cytometry platform and a custom Qbeads® PlexScreen Kit.
- These data exemplify that live-cell analysis, alongside advanced analytical methods, is a powerful approach enabling multi-parametric quantification of immune cells.

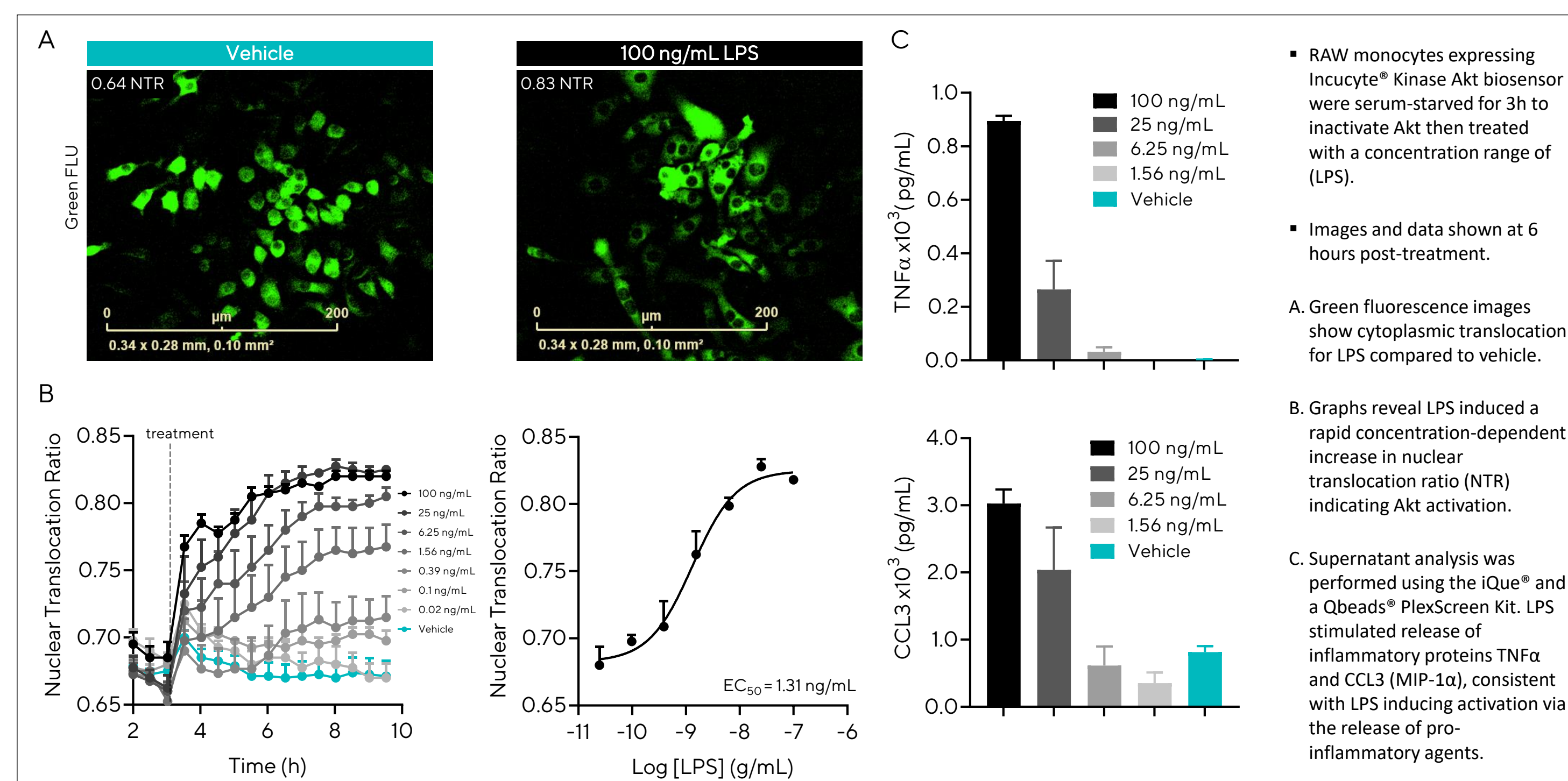
Label-free differentiation assay classifies macrophages based on morphology



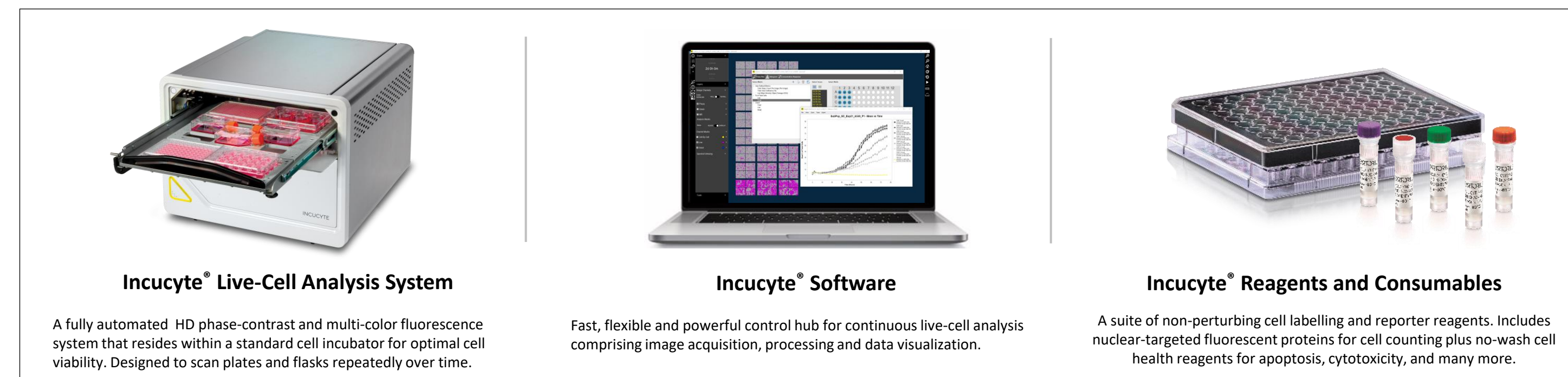
Biological significance of monocyte maturation in chemotactic migration



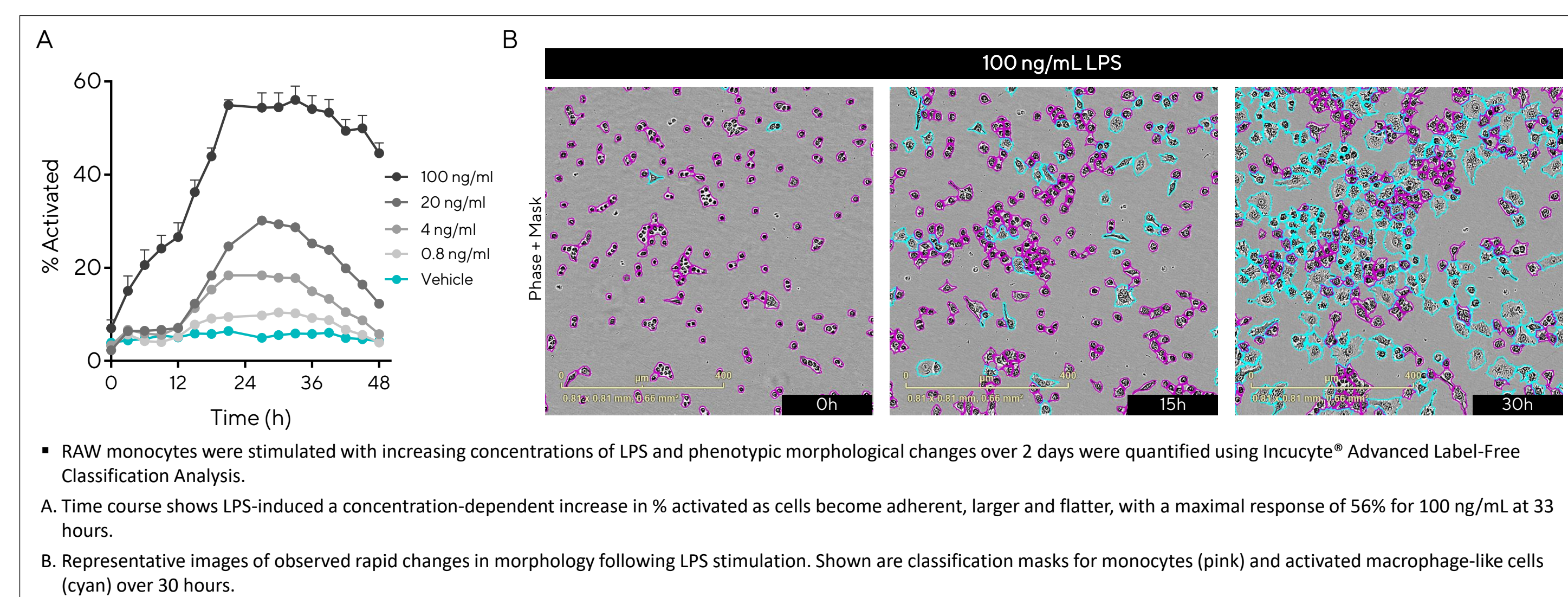
Activation of Akt in Lipopolysaccharide (LPS) stimulated monocytes



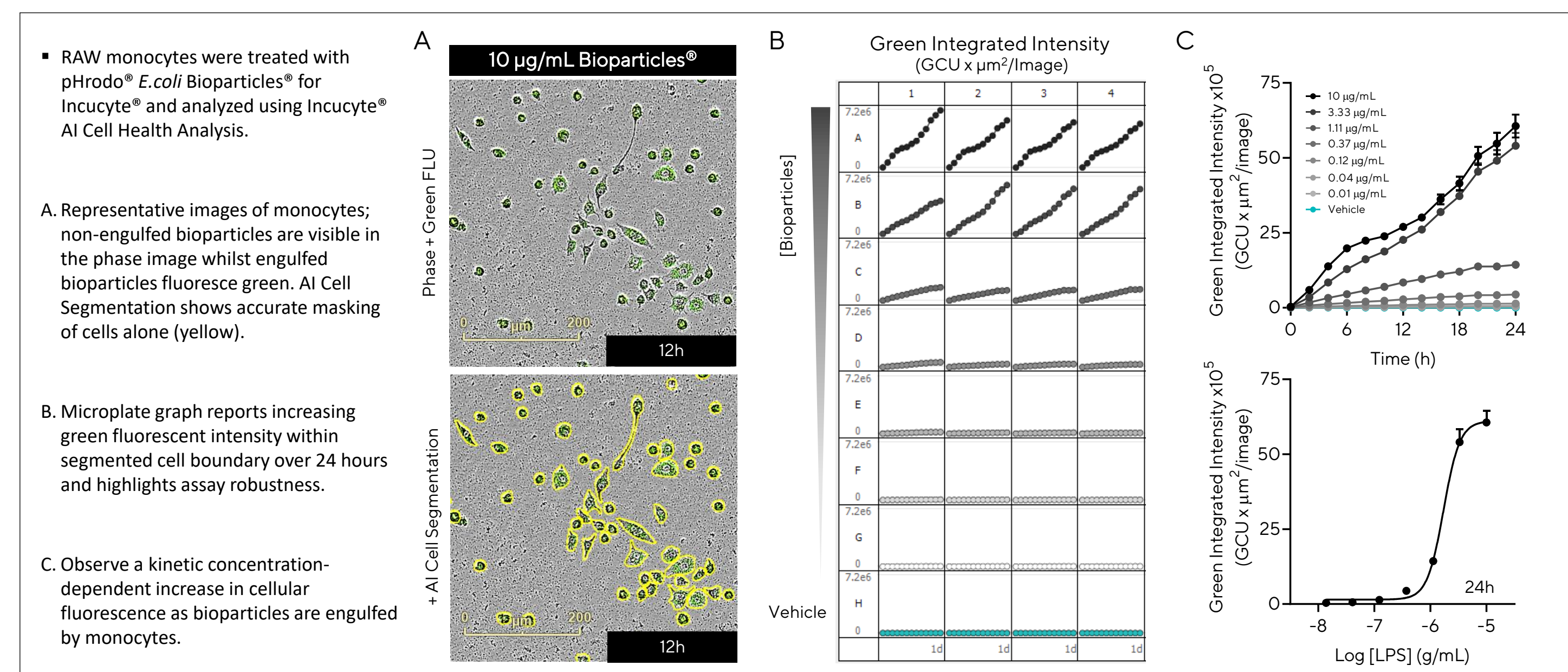
Incucyte® Live-Cell Imaging and Analysis Solutions



Label-free morphological assessment of monocyte activation



Artificial Intelligence (AI) driven analysis of phagocytic monocytes



Anti-CD20 mAbs promote antibody-dependent cellular phagocytosis in macrophages

