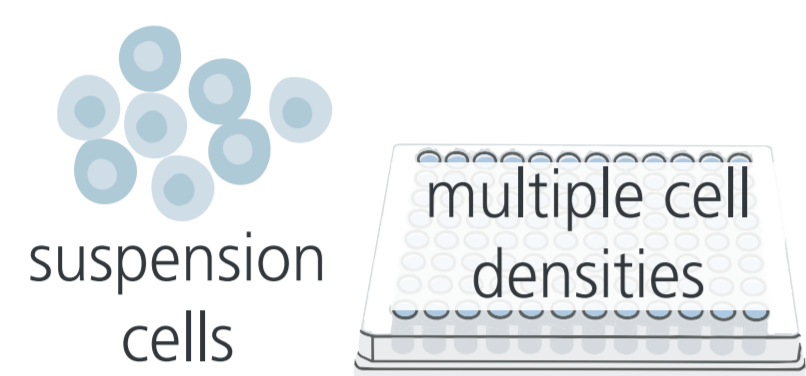


## Multiplex Image-Based Assay Enables Combined Glucose and Viability Monitoring for Advanced Cell Culture Control

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### Method

#### 1 cell seeding

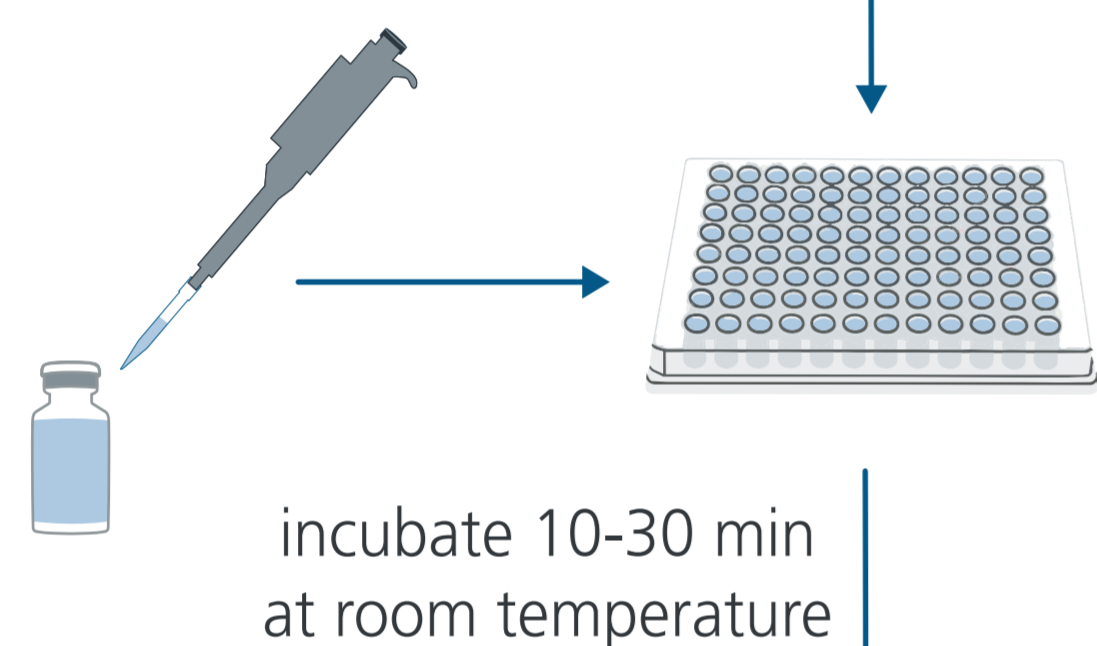


#### 2 sample collection and dilution

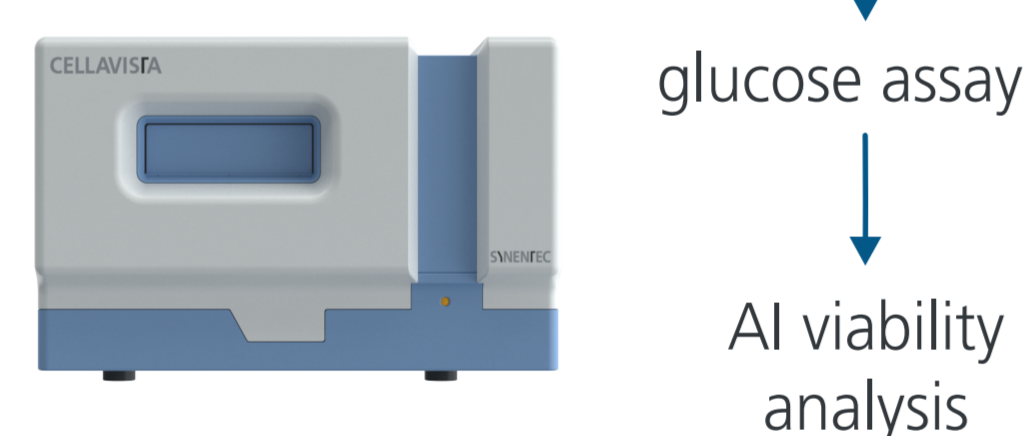


24 h, 48 h, 72 h after seeding

#### 3 glucose hexokinase assay



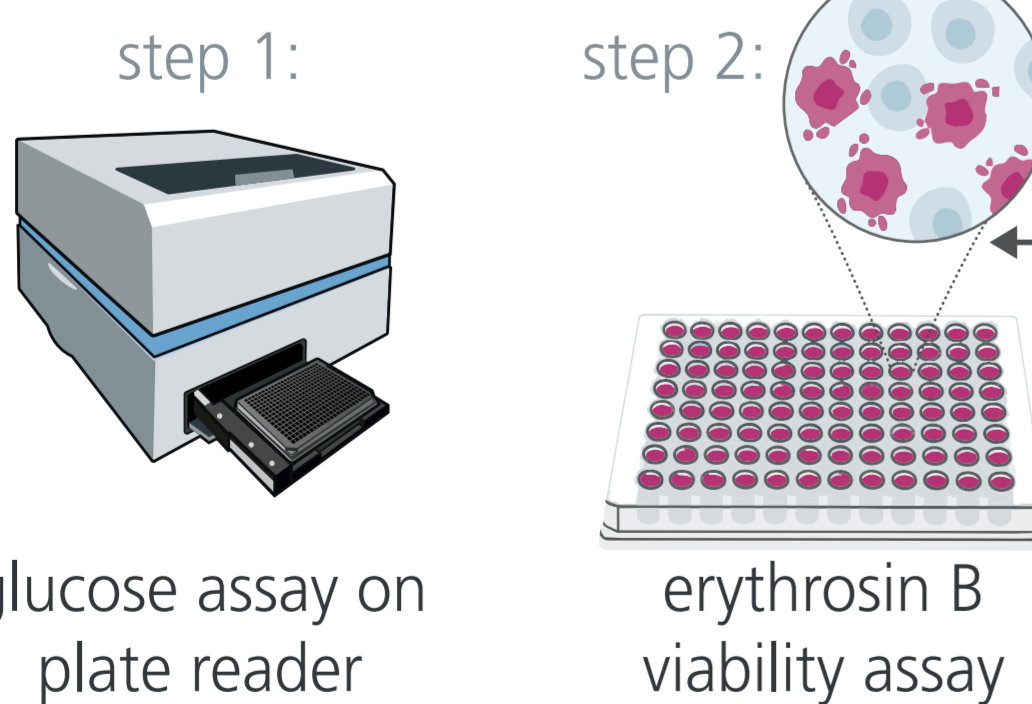
#### 4 automated imaging



#### 5 automated analysis

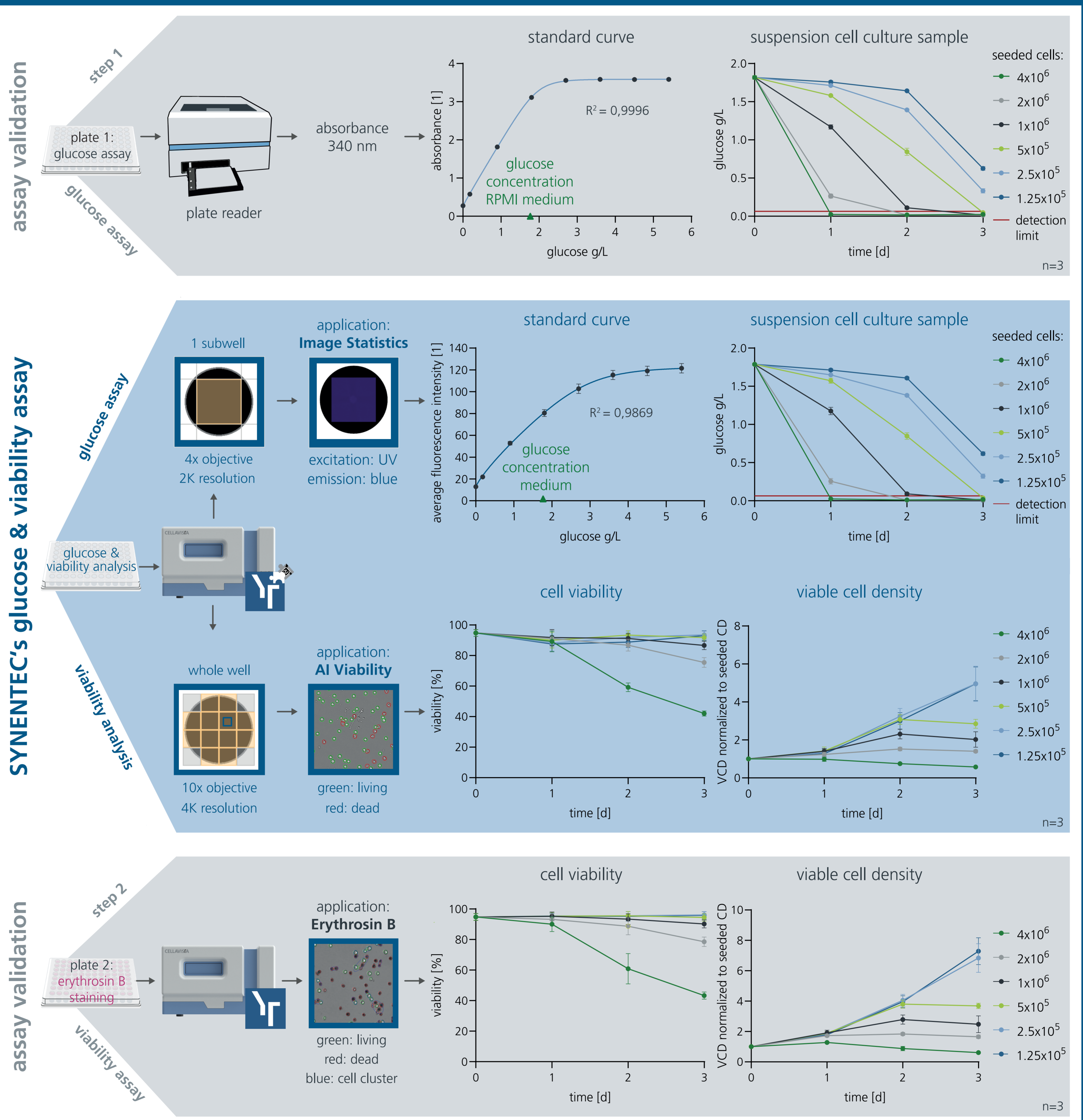


#### 6 assay validation



### Introduction

In biomanufacturing, glucose availability strongly influences the proliferation, viability and productivity of suspension cell cultures. However, glucose concentration and cell viability are typically measured using separate instruments and different samples, resulting in inefficient workflows, particularly in automated environments. Here, we present an integrated image-based workflow using the CELLVISTA® 4K in combination with YT-SOFTWARE® that enables simultaneous quantification of glucose concentration, cell density, and viability from the same sample on a single plate and device. By combining fluorescence-based glucose detection with AI-driven brightfield analysis, the workflow simplifies process monitoring, reduces sample handling, and eliminates the need for toxic dyes.



### Benefits

- Save precious samples by analyzing glucose concentration, cell count and viability at once.
- Save time, effort, and money by analyzing everything in the same imager.
- Eliminate toxic dyes from your lab by using label-free AI viability assessment.

