High-Content Imaging of Gemcitabine-induced Caspase Activity using NYONE® and YT-SOFTWARE®

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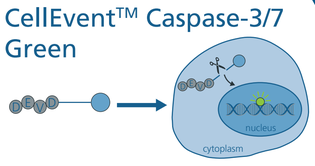
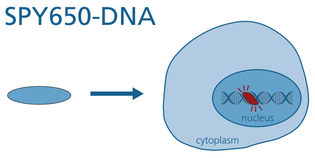
Method

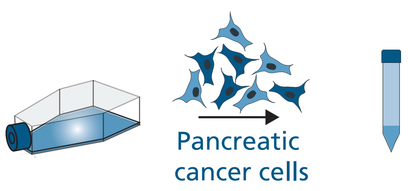
CellEvent™ Caspase-3/7 Green



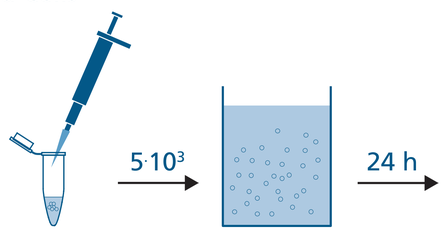
SPY650-DNA



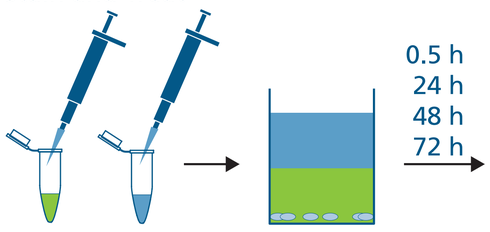
Harvest Cells



Seed Cells

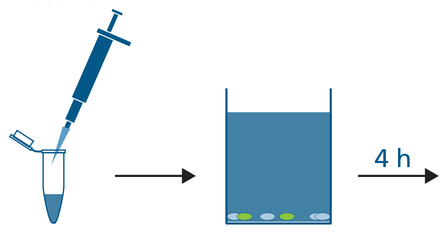


Stain and Treat

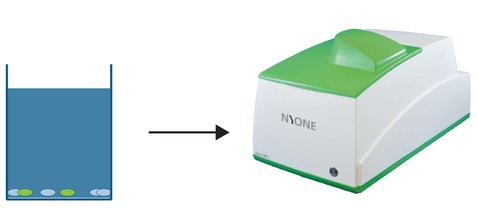


Image

Add Resazurin



Image

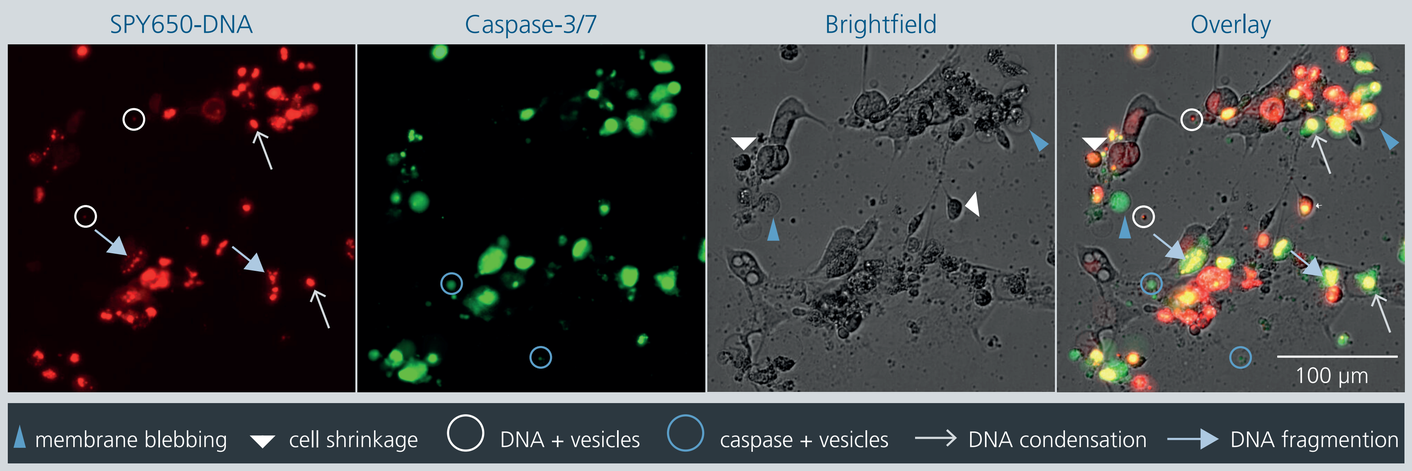


Introduction

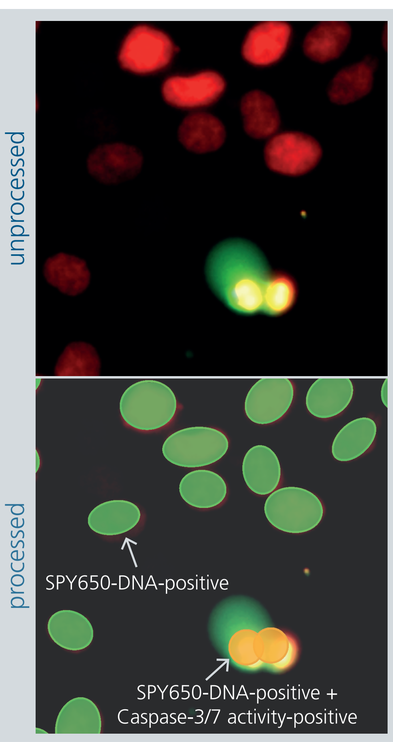
Apoptosis is a form of programmed cell death involved in many physiological and pathophysiological processes. Crucial is the activation of the executioner caspases-3 and 7. Their activity initiates the morphological characteristics and biochemical hallmarks of apoptosis. Therefore, analysis of caspase activity is widely used to investigate apoptotic events. However, most assays detecting caspase activity in a microplate format require washing steps, cell lysis or transfection. Hence, we aimed to establish an easy and fast assay to detect caspase activity without substantial cell manipulation.

Results

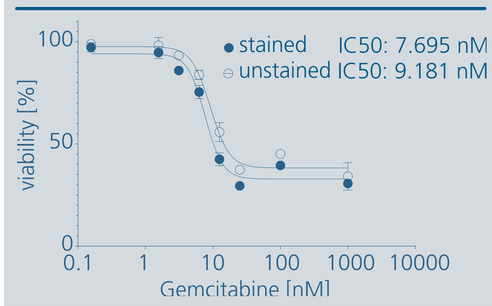
Morphological Signs of Apoptosis



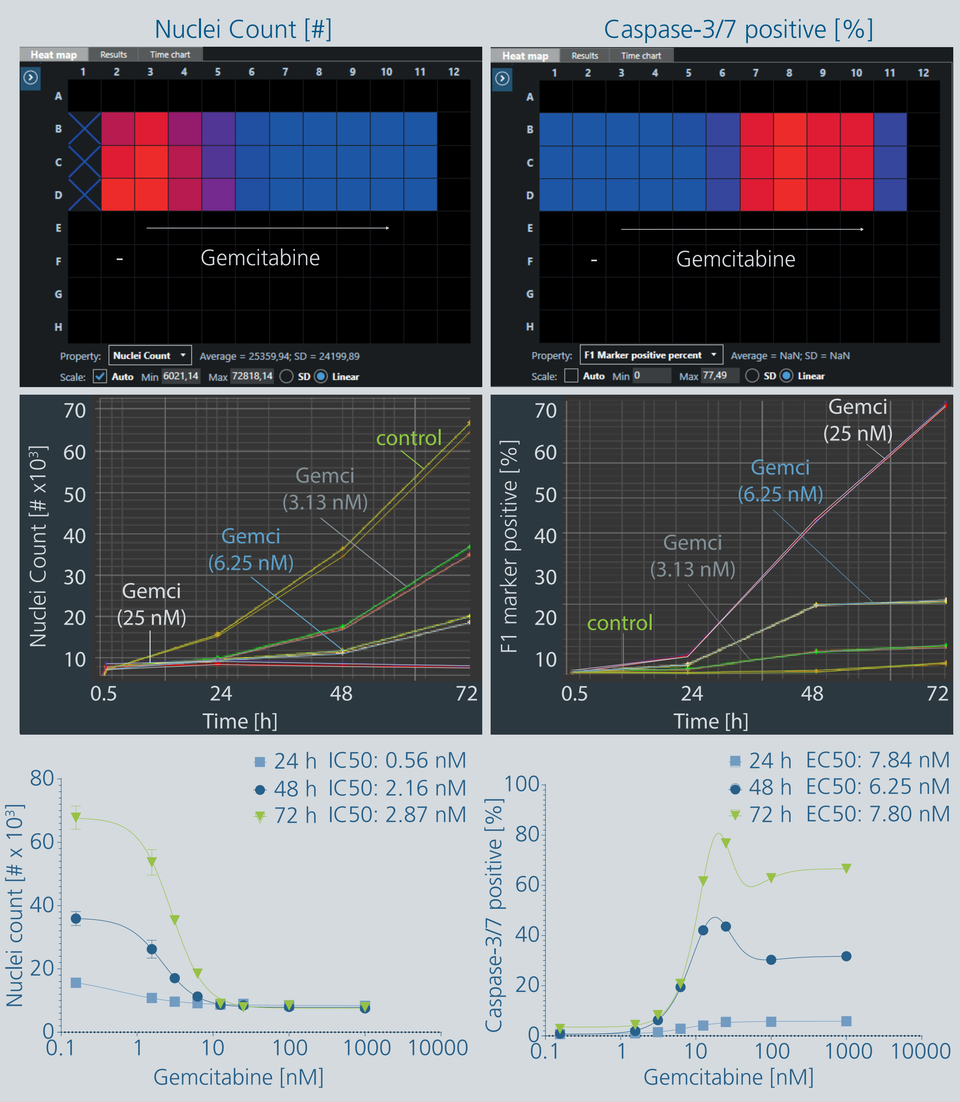
The Virtual Cytoplasm (1F) Application



Resazurin-based Viability Assay



Data Analysis of Nuclei Count and Caspase-3/7 Activity



Benefits of SYNENTEC's Caspase Activity Assay

- Live cell imaging of caspase activity over time
- Simple add, no-wash, no-lyse assay in a microplate format
- Accurate and efficient image processing
- Suitable for automation and high-content screening

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