

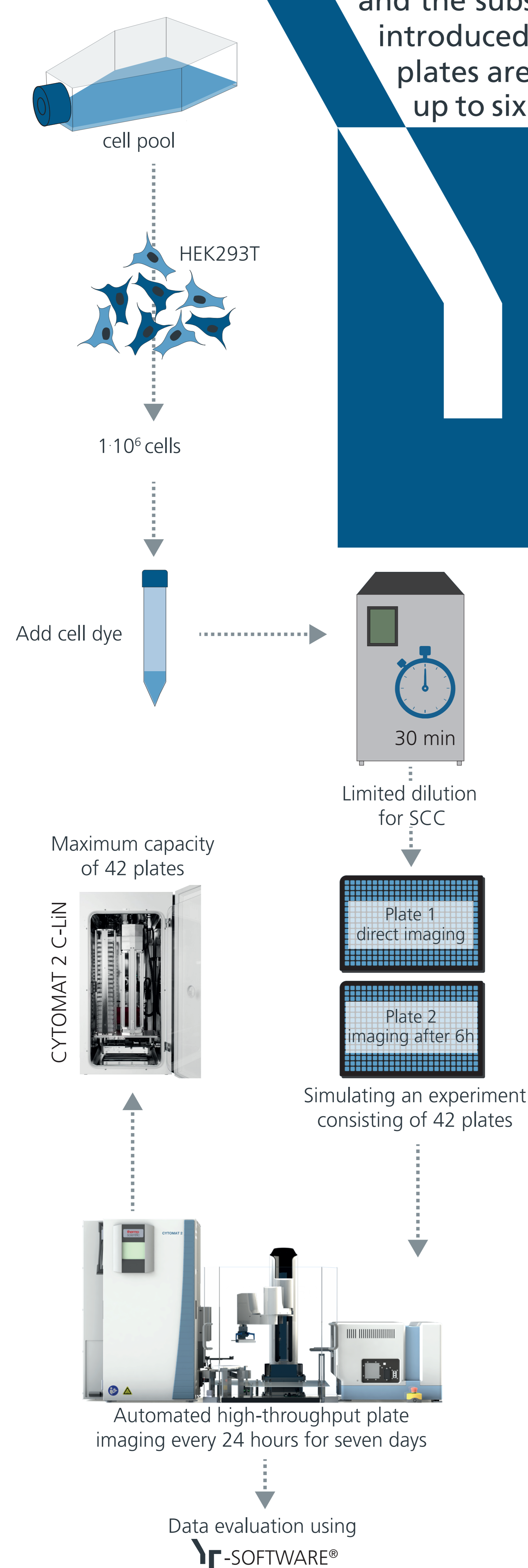
Dye Dilution: Analyzing the Stability of Cell Dyes using SYNENTEC's Automation System

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Method

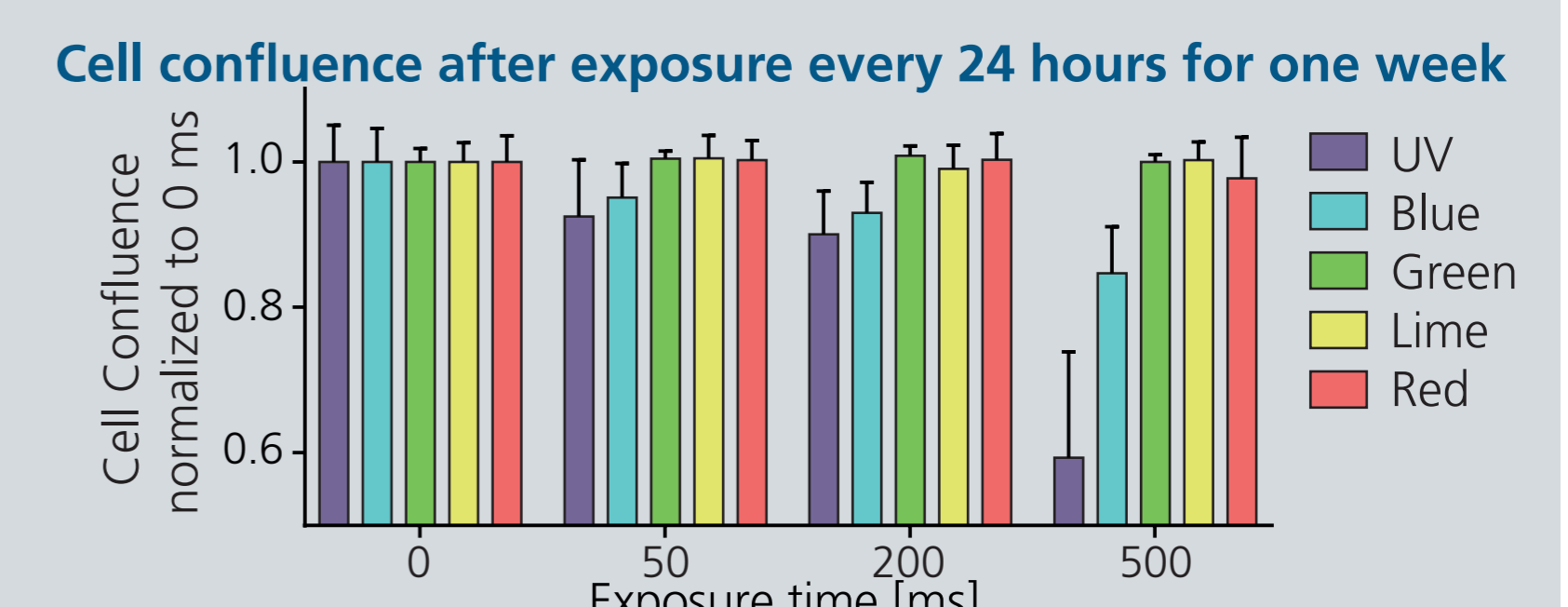
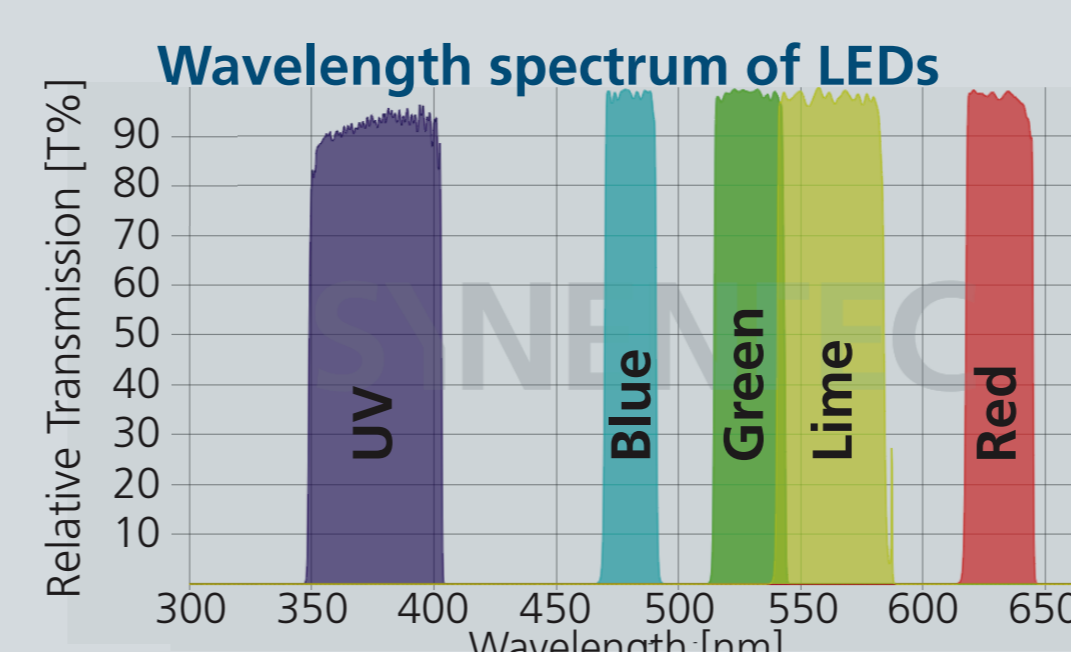


Introduction

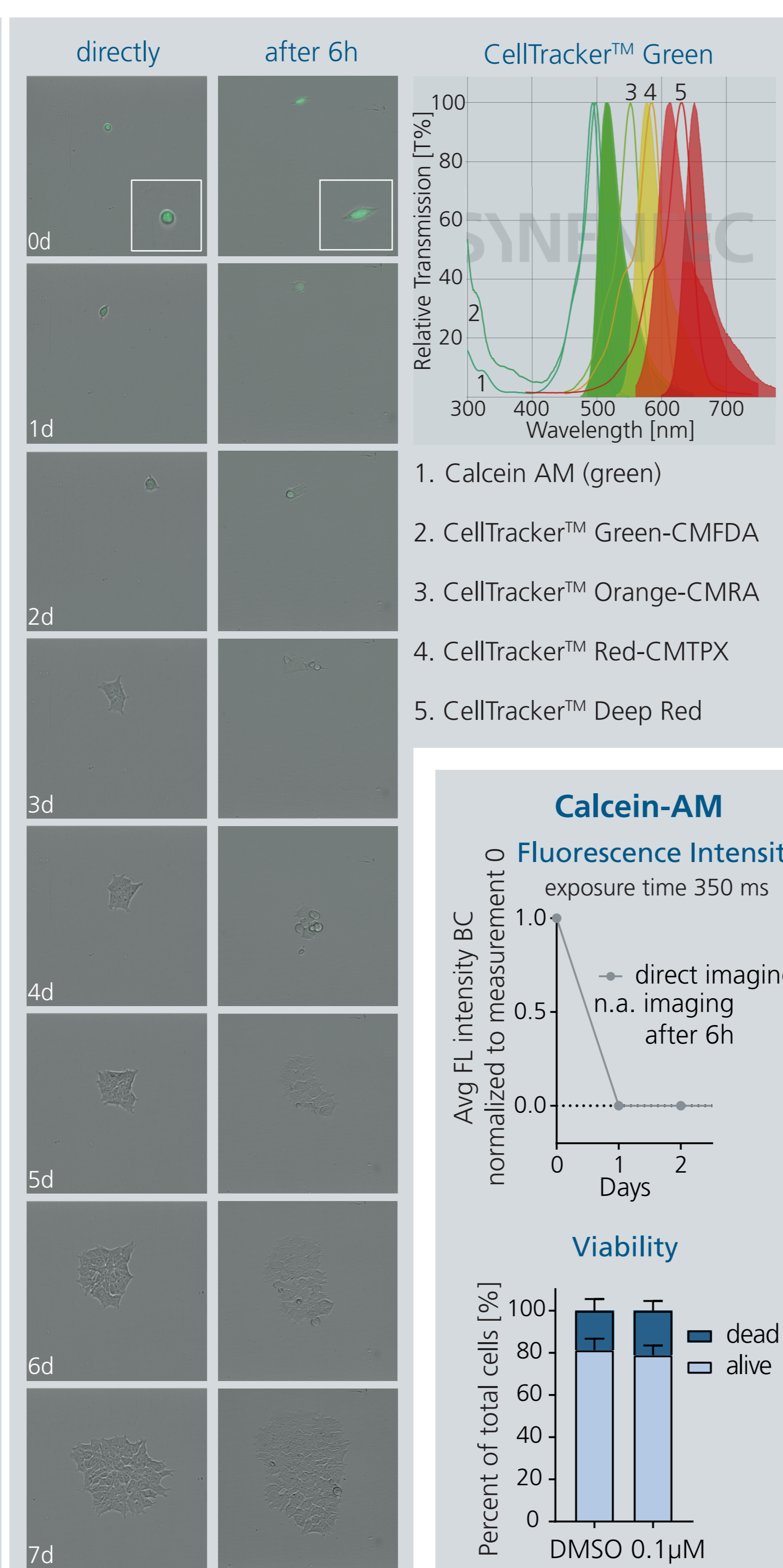
Single Cell Cloning (SCC) represents a critical step in cell line development. The number of cells per well and the subsequent growth of the colonies is often determined by microscopic analysis. Recently, we introduced our automation system enabling the automated imaging of up to 42 plates. However, if all plates are loaded into the incubator at the same time and measured one after the other, it can take up to six hours until the last plate is measured using our image analysis application for Fluorescence Activated Single Cell Cloning (FASCC). Hence, we analyzed whether the first and the last plate can be measured with the same imaging/analysis parameters and if certain cell dyes are better suited than others.

Results

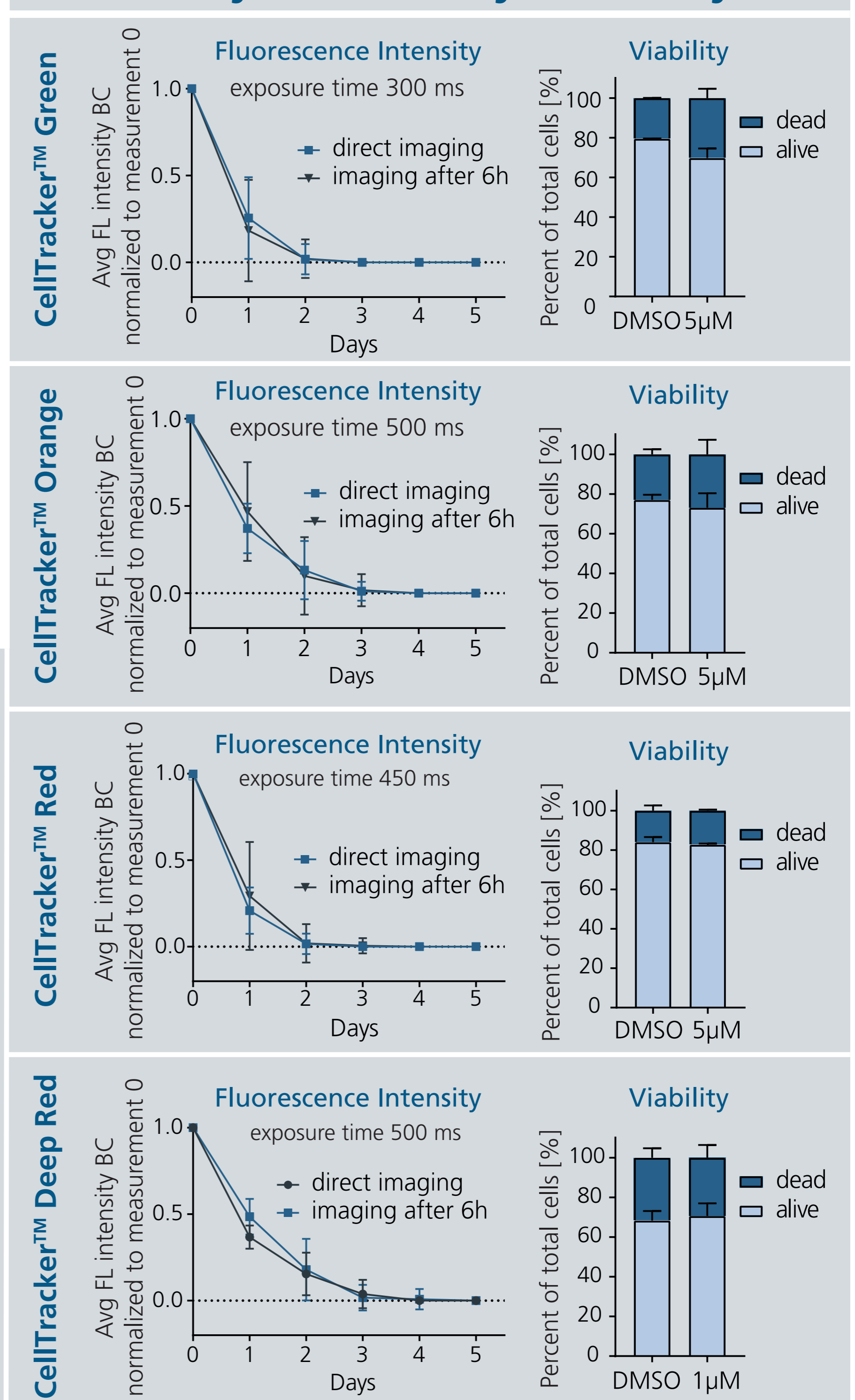
Phototoxicity



Automated Imaging



Stability and Toxicity of Cell Dyes



Conclusion

- Repetitive exposure of the cells to UV or blue light affected cell growth
- Most of the common cell dyes last for 6 to 72 hours
- Cell dyes had no effect on cell viability
- Measurement of up to 42 plates without changing any optical parameters

