Cell Viability Assay with Sapphire700™ Stain and the Odyssey® CLx and Sa Imaging Systems

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Working

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ABSTRACT

Cell viability can be assessed based on various cellular features and mechanisms. These include cell membrane integrity (detected by cell impermeable dyes or leakage of intracellular lactate dehydrogenase (LDH) activity), monitoring of ATP with bioluminescence assays, determining esterase activity with Calcein-AM or Fluorescein-DA, measuring cellular Redox status with MTT, MTS, WST, or XTT, and detecting the mitochondrial membrane potential with JC-1. Various cell viability assays have been developed for plate readers (monitoring absorbance and luminescence), flow cytometry, and image cytometry (e.g. NucleoCounter® NC-3000TM from ChemoMetec); however, none of these assays have been optimized for near-infrared detection with the Odyssey Imaging System.

This collection contains protocols to perform the assay with 3 different cell lines:

- Saponin-treated A431 Cells
- Staurosporine-treated Jurkat Cells
- Camptothecin-treated RAW264.7 Cells

EXTERNAL LINK

https://www.licor.com/documents/s6xiekspf0z3a802h8gnvina5ayydmyw

THIS PROTOCOL ACCOMPANIES THE FOLLOWING PUBLICATION

1. Gani OA, Engh RA (2010) Protein kinase inhibition of clinically important staurosporine analogues. Nat Prod Rep. 27: 489-98

2. Gescher A. (2000) Staurosporine analogues – pharmacological toys or useful antitumor agents? Crit Rev Oncol Hematol. 34: 127-35

3. Venditto VJ, Simanek EE (2010) Cancer therapies utilizing the camptothecins: a review of the in vivo literature. Mol Pharm. 7: 307-49

PROTOCOL STATUS

Working

We use this protocol in our group and it is working

Collection protocols

Cell Viability Assay on Saponin-treated A431 Cells

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Cell Viability Assay with Staurosporine-treated Jurkat Cells
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