10 February 2011

Companies Announcements Office
Australian Securities Exchange Limited
10th Floor, 20 Bond Street
SYNDEY NSW 2000

DR. ROBIN SCAIFE TO PRESENT AT THE 4TH AUSTRALIAN HIGH CONTENT IMAGE MEETING

BPH Energy Limited [ASX: BPH] is pleased to provide a copy of the presentation that the Principal Researcher Dr. Robin Scaife will present at the 4th Australian High Content Image Meeting in Lorne, Melbourne, today.

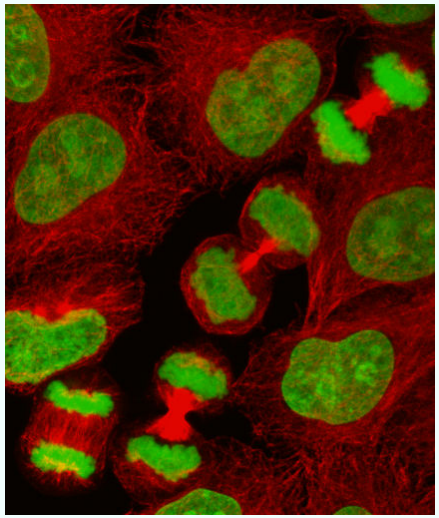
High Content Imaging has industrialised the field of microscopy, transforming process like fluorescence microscopy from the single glass slide to a fully automated high-throughput imaging process. Since its inception over ten years ago, high-content imaging and analysis has become a pivotal process in early-stage drug discovery. BPH investee company, Molecular Discovery Systems (**MDS**), uses high content imaging and analysis to screen for new oncology drugs.

MDS has gained core expertise in high-content screening and high-throughput imaging and analysis. MDS' innovative high content imaging and analysis platform detects and quantifies cellular properties much faster than conventional methods, facilitating in the rapid optimisation and prioritisation of drug leads. MDS has effectively utilised high-content imaging and analysis to identify novel cancer drug candidates.

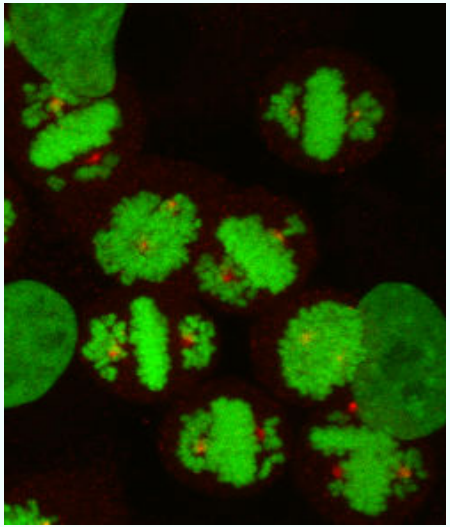
Yours Sincerely,

David Breeze
Chairman

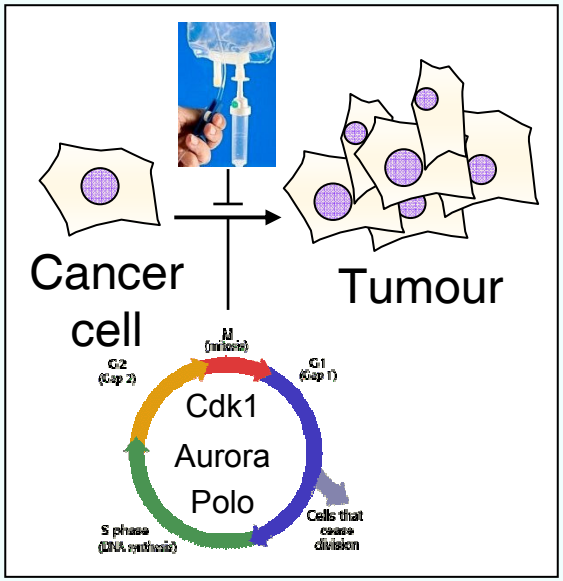
Use of high-content imaging and analysis to screen for new oncology drugs

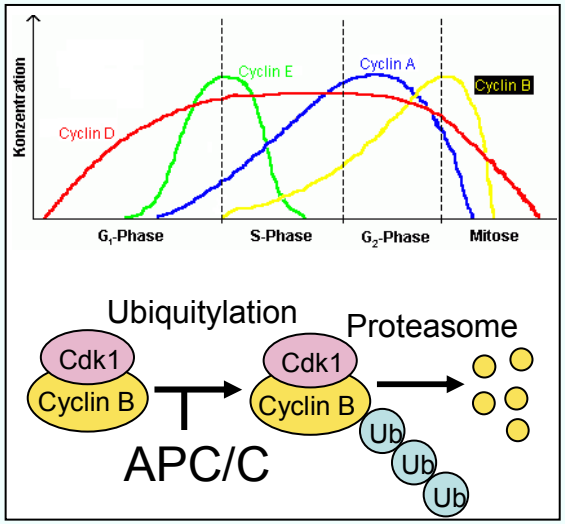


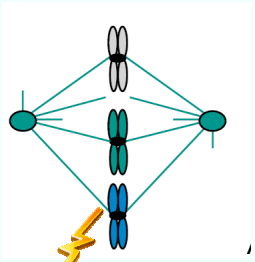
Robin Scaife
Molecular Discovery Systems
WAIMR

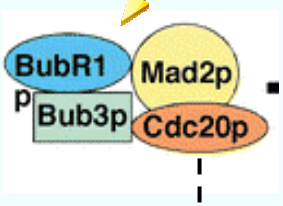


Cyclin B Degradation by the UPS



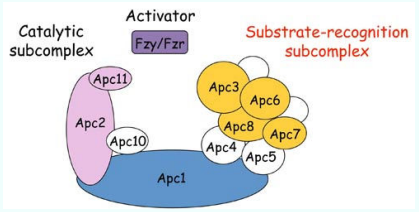




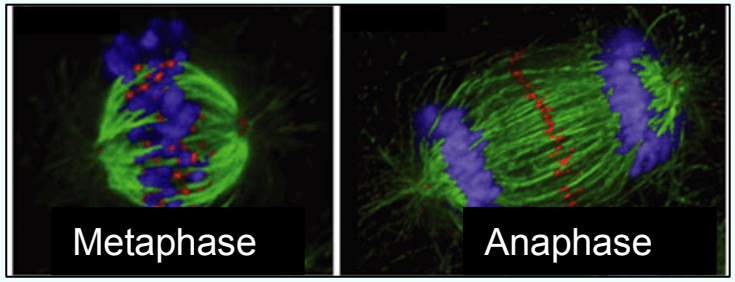


Spindle Assembly Checkpoint

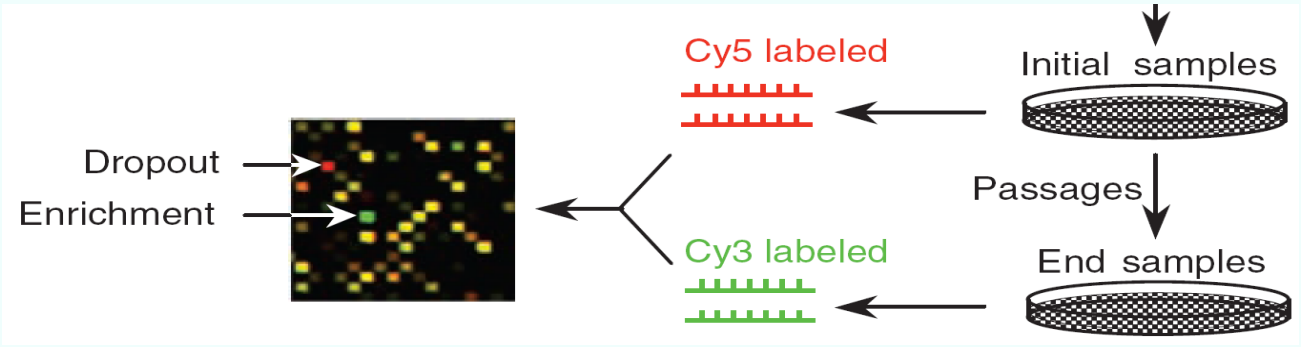
Cdc20p



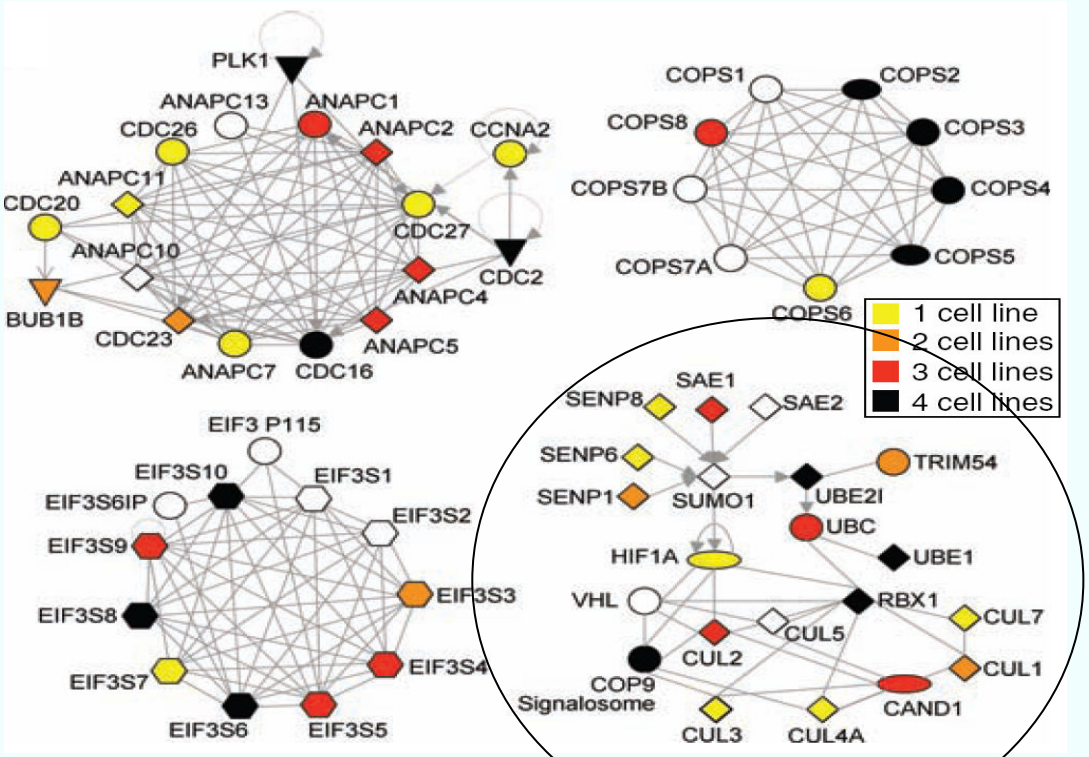
Anaphase Promoting Complex



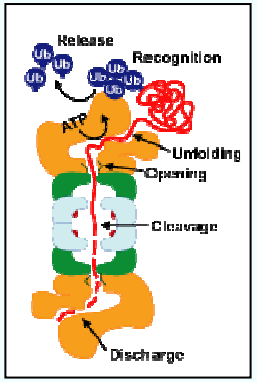
Cell Proliferation shRNA Screen



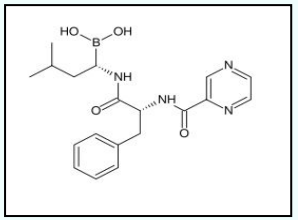
Schlabach et al., Science (2008)



Ubiquitin

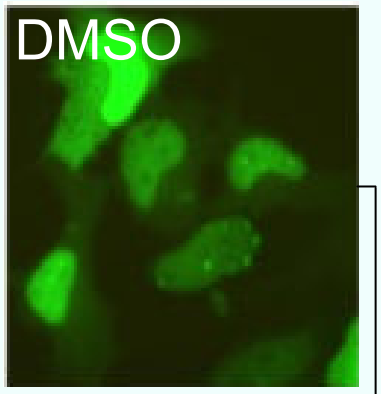


26S Proteasome

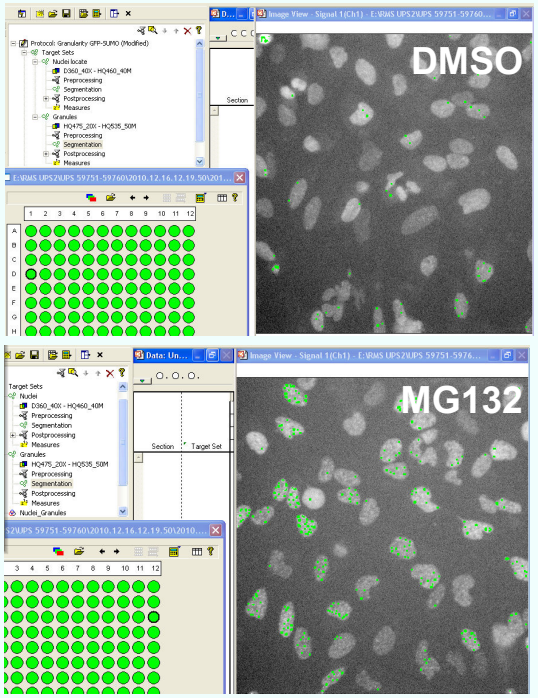


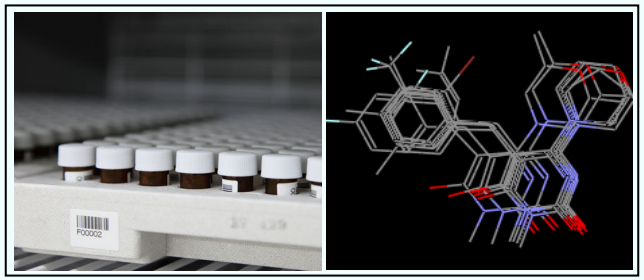
Velcade™

GFP-SUMO Granularity Assay

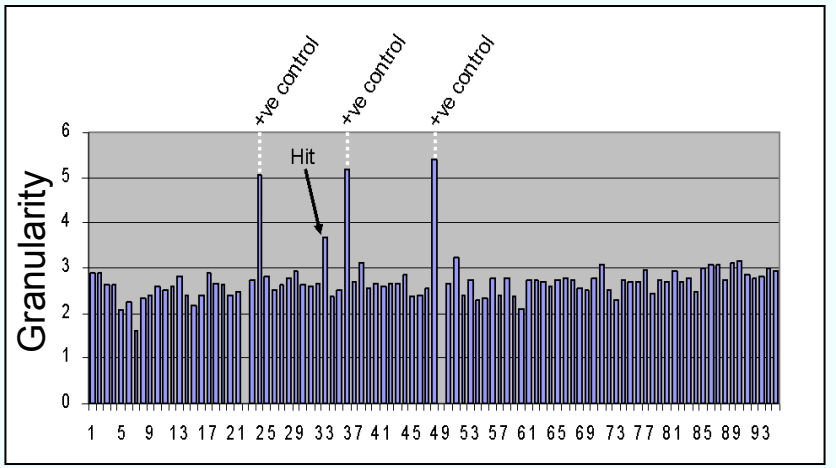


High-content imaging and analysis

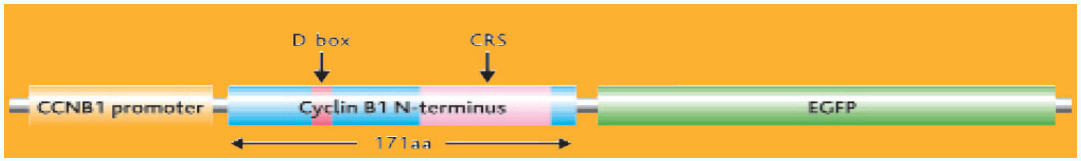




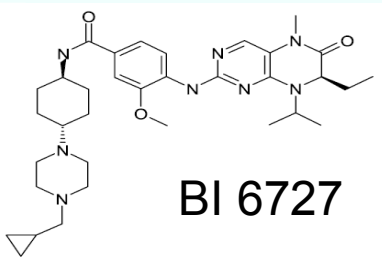
Pharmacologically Diverse

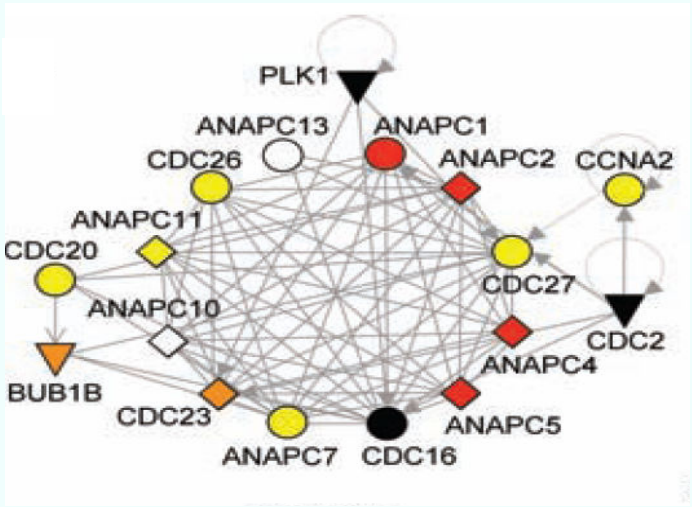


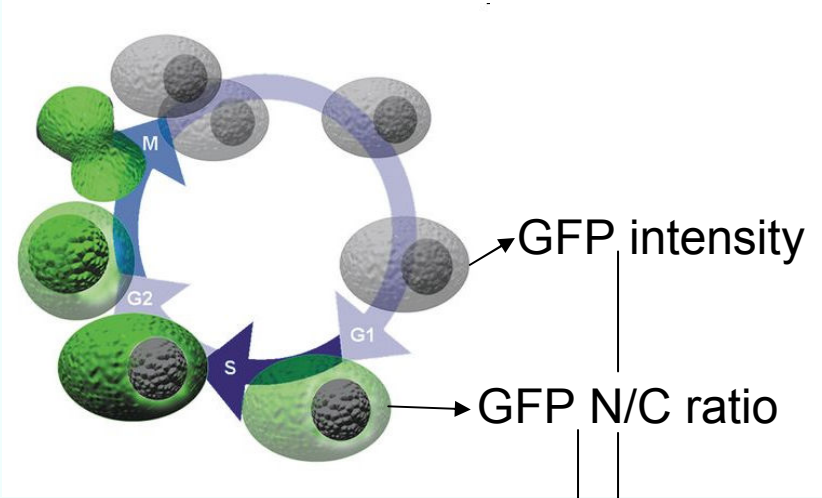
Cyclin-B-GFP Cell Cycle Screen

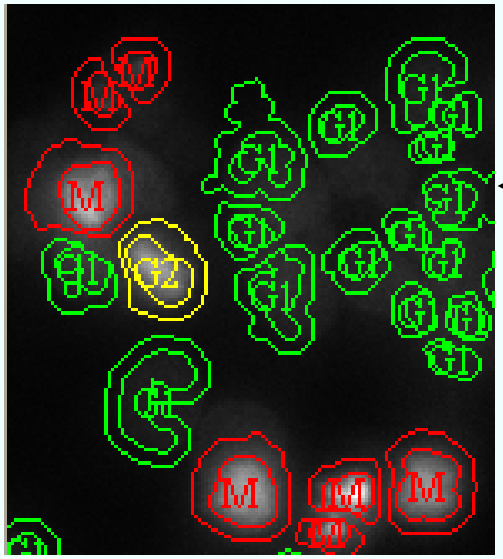


Courtesy of GE Healtcare



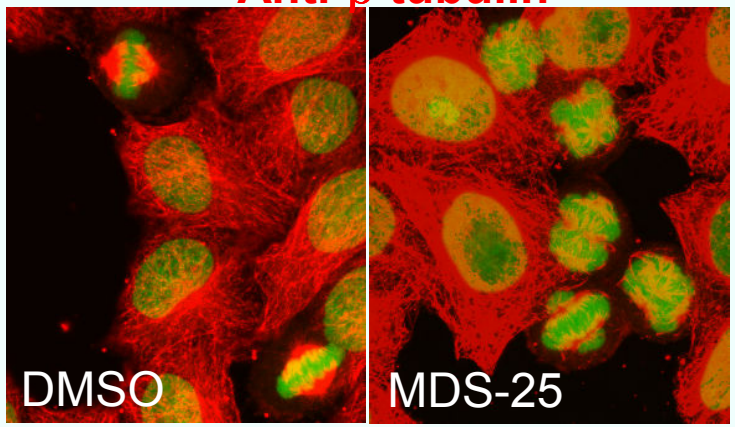


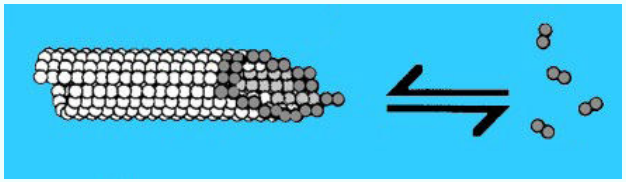


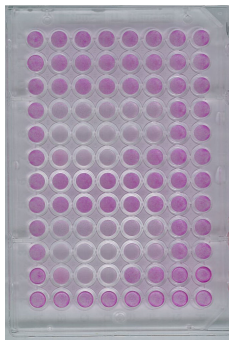


Screening of Marine Natural Resources

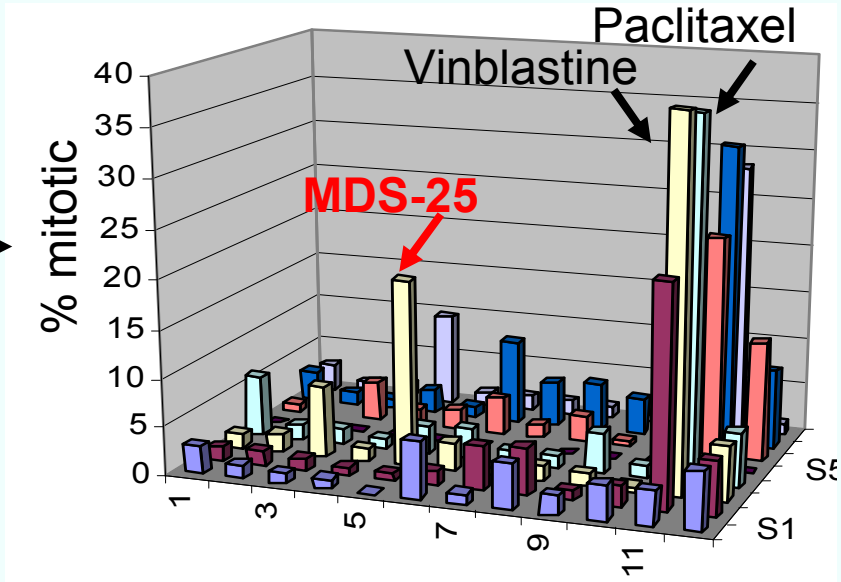
Anti-β-tubulin







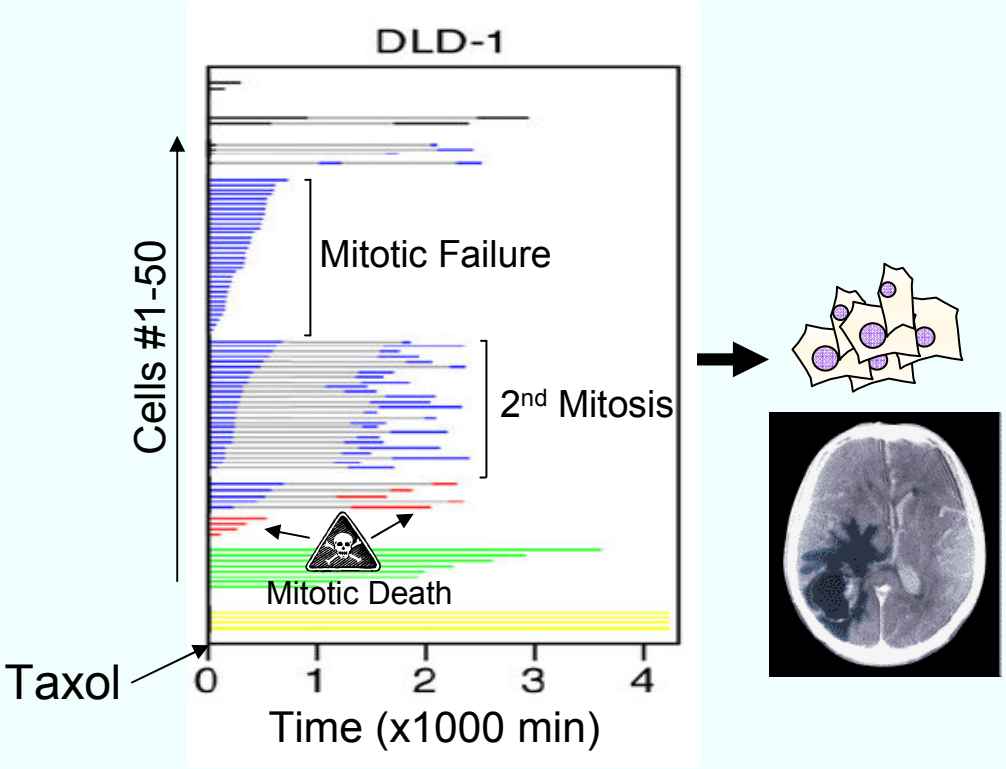
Cell Proliferation

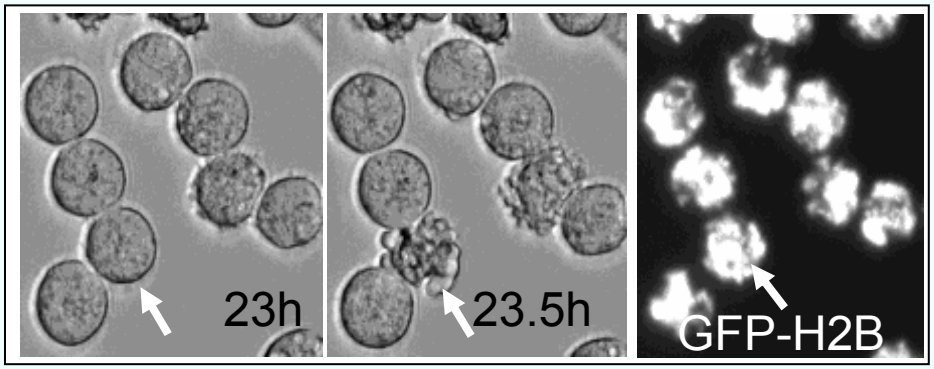


Taxol

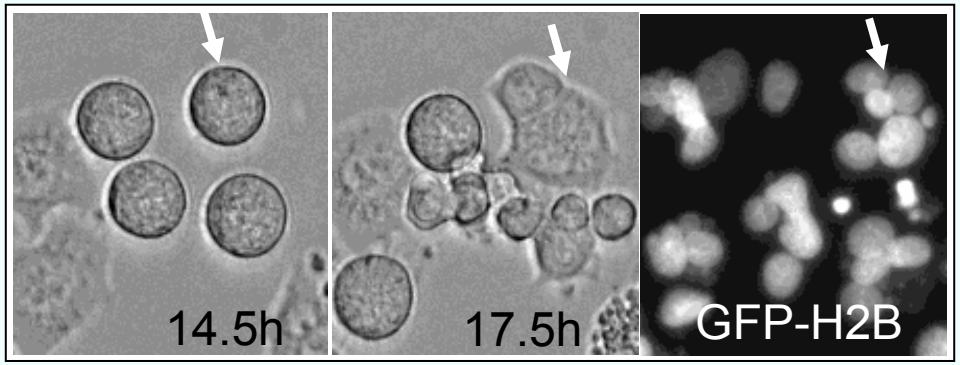
Variation in Response to Mitotic Arrest

Gascoigne et al., Cancer Cell (2008)



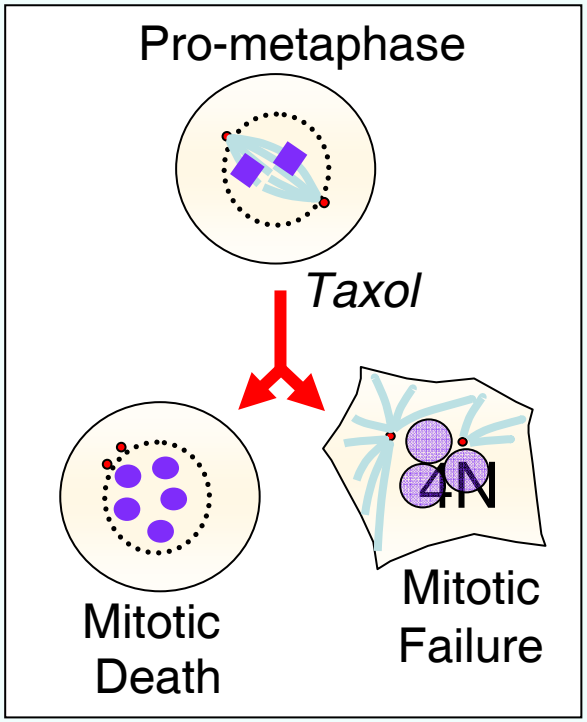


Mitotic Death

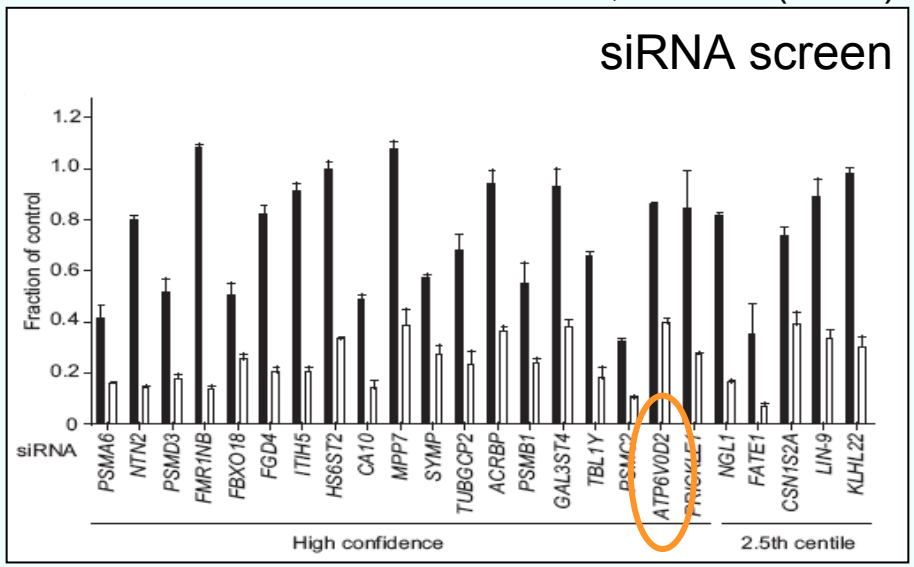


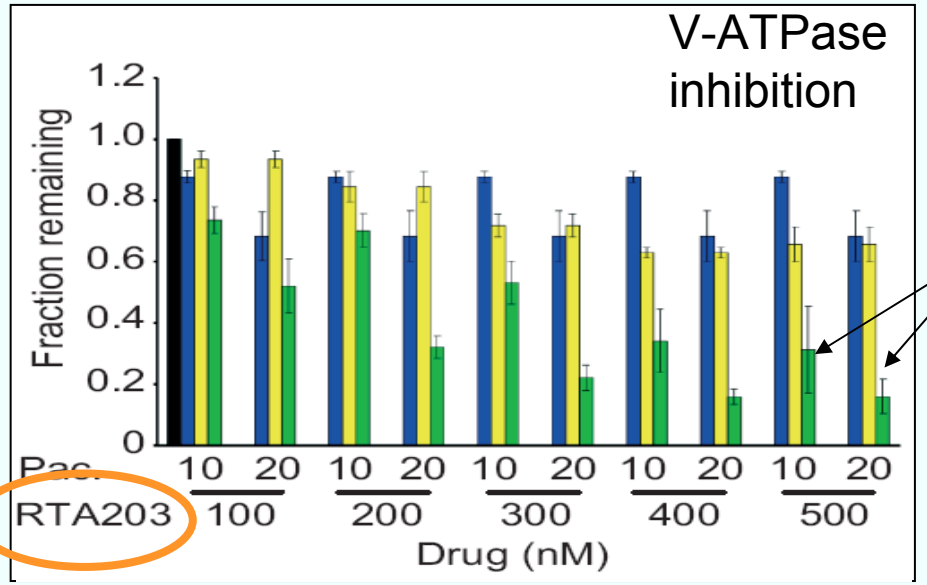
Mitotic Failure

Taxol Sensitization



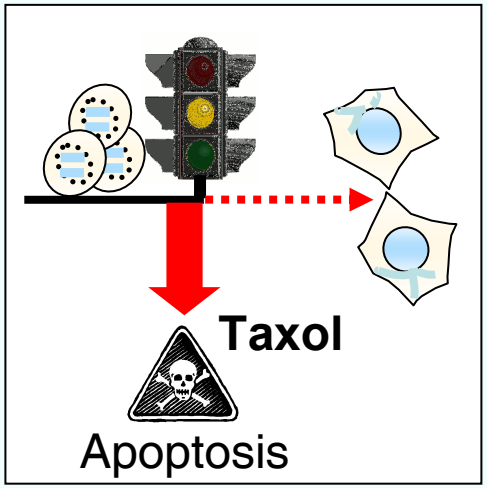
Whitehurst et al., Nature (2007)





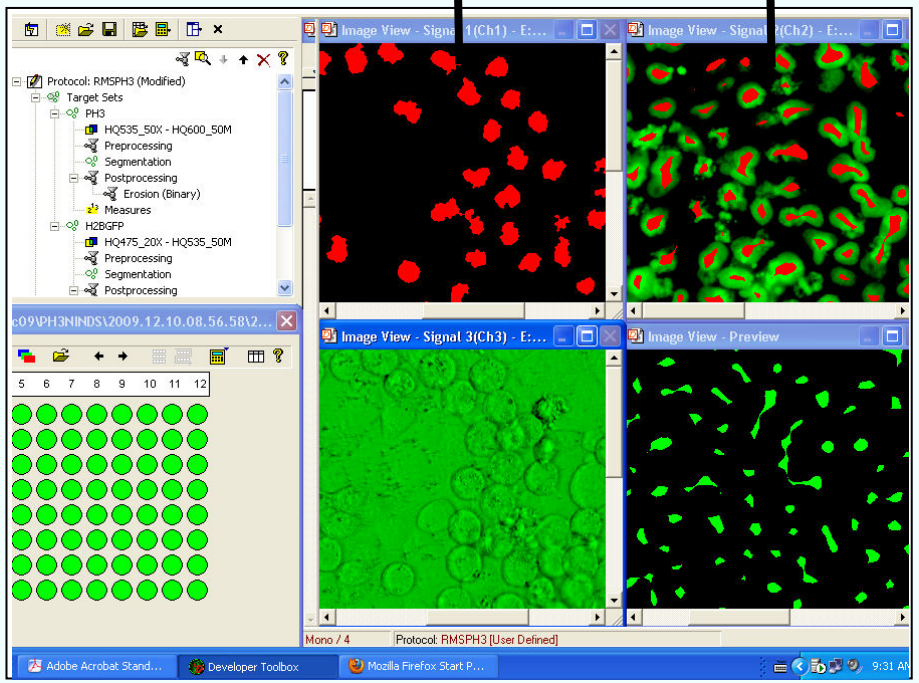
Taxol+ RTA203

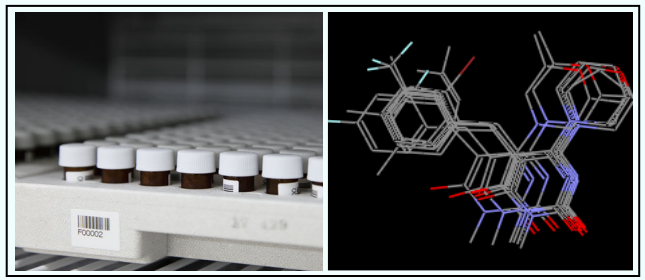
Induction of Mitotic Death



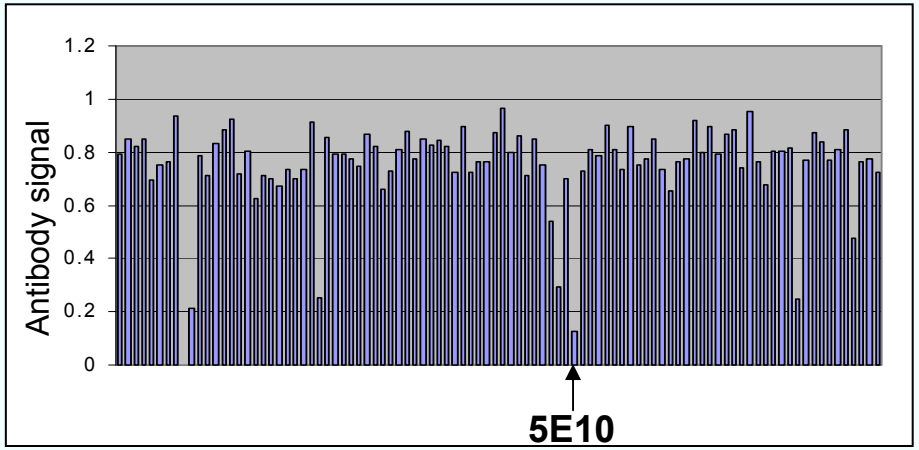
αPH3 segmentation

GFP-H2B segmentation

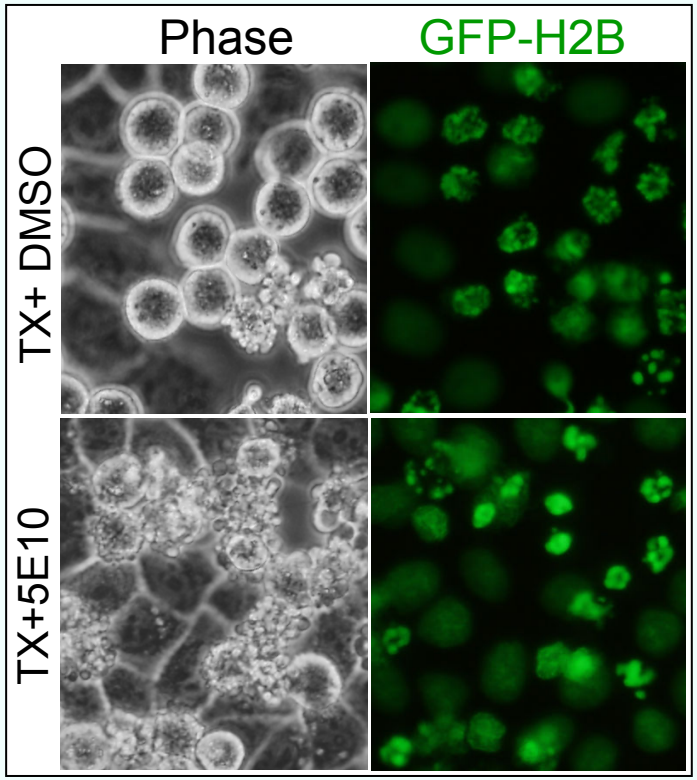


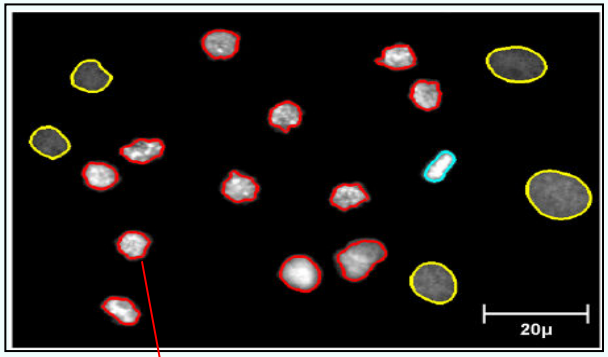


Pharmacologically Diverse



HCS of Mitosis vs Apoptosis



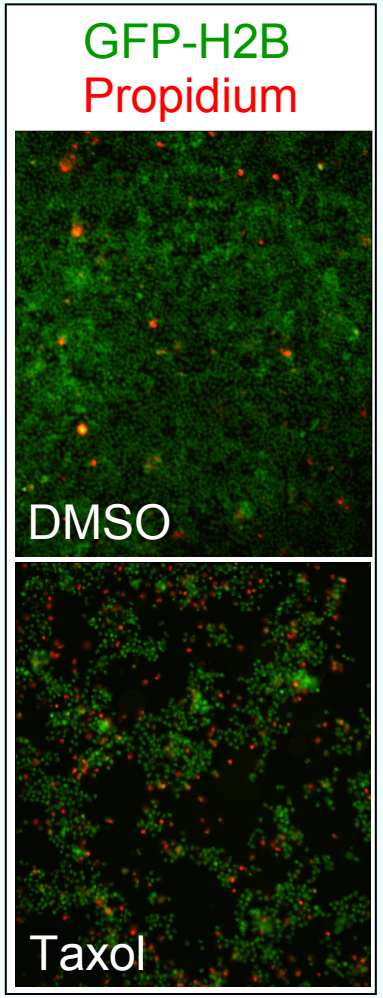


Tsui et al., PLoS (2009)

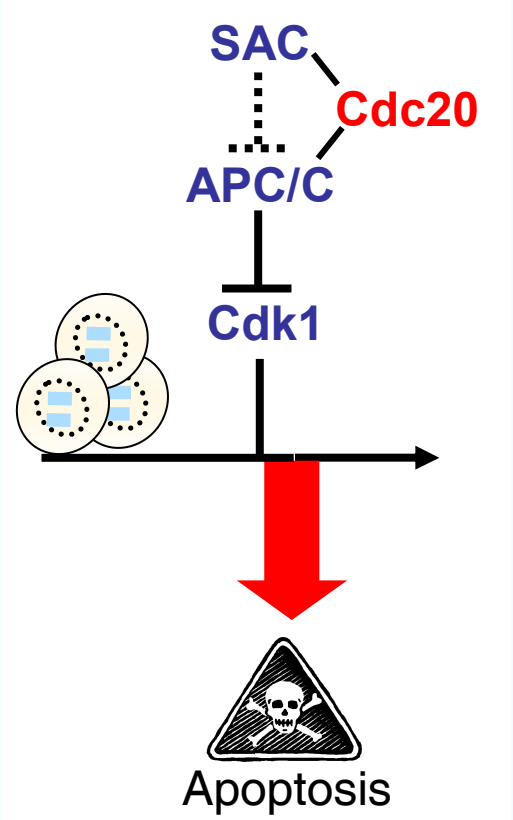
Monopolar spindles:

-Small form factor (Area/Perimeter)

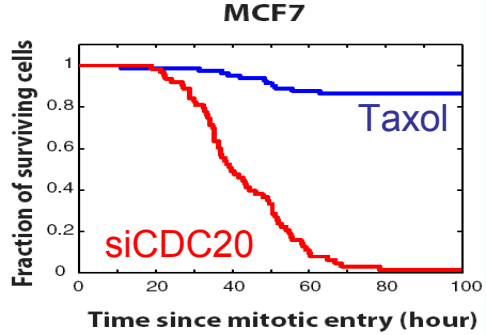
-High SD of intensity



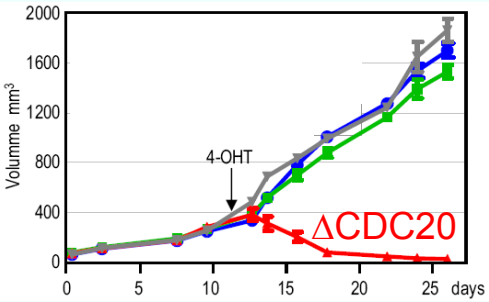
Inhibition of Mitotic Exit

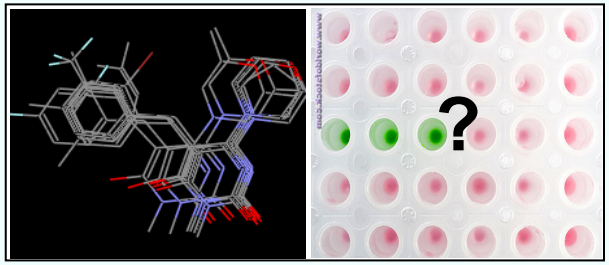


Huang et al., Cancer Cell (2009)

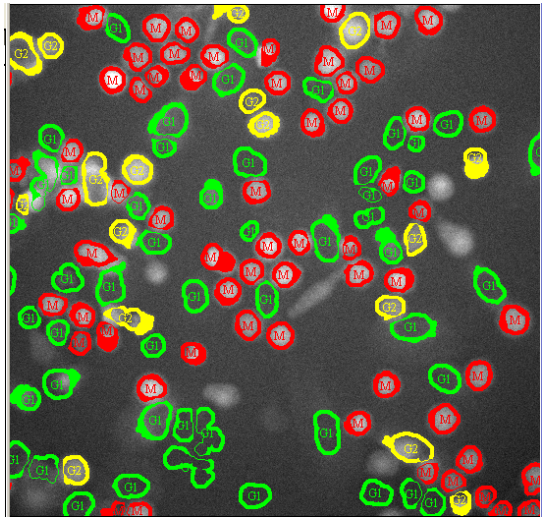


Manchado et al., Cancer Cell (2010)

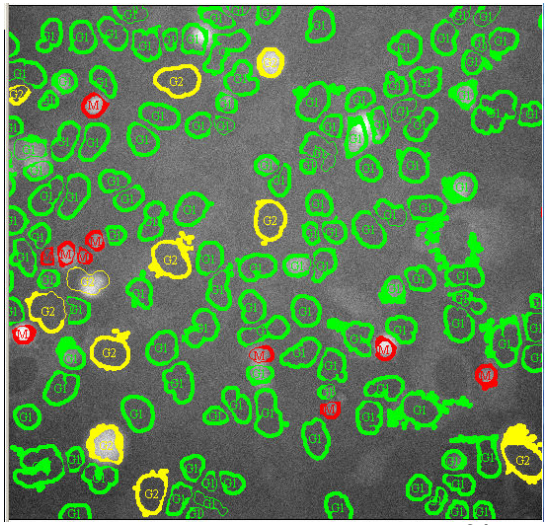




Cyclin-B-GFP

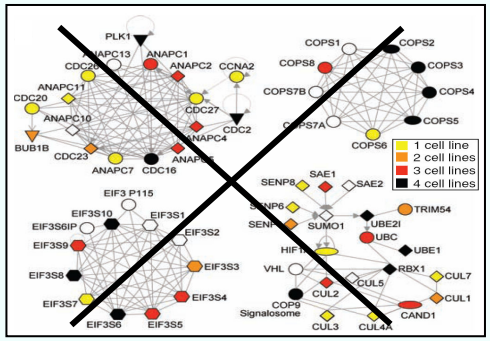


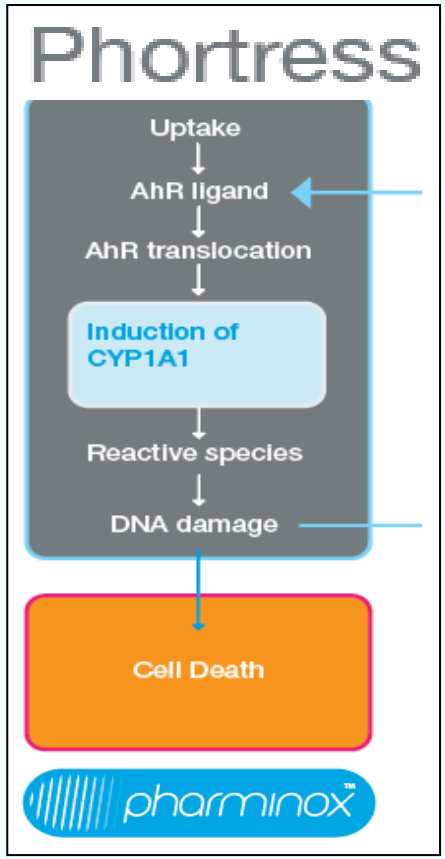
Nocodazole (35%M)



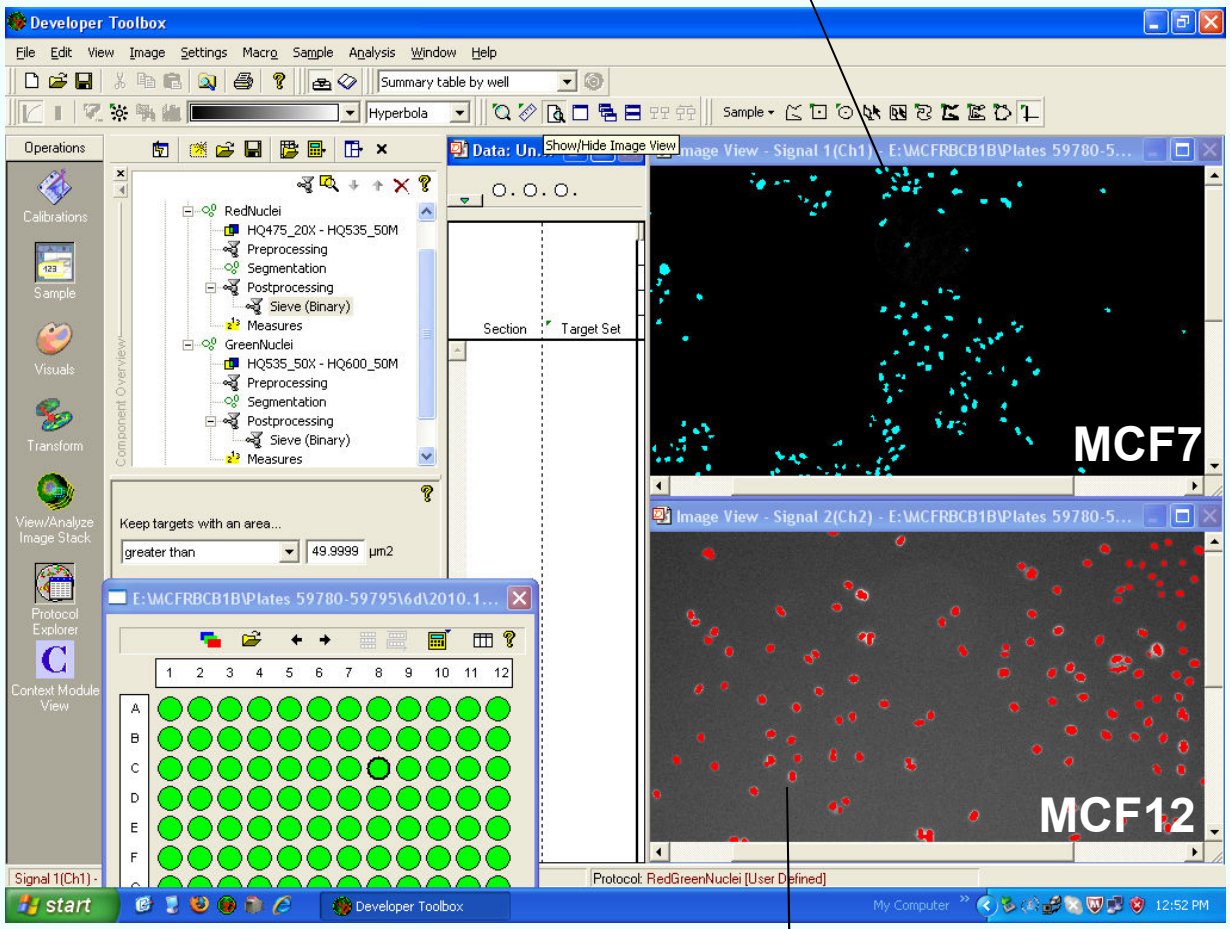
6h Nocodazole release (4%M)

Selective Inhibition of Proliferation





λ475nm segmentation

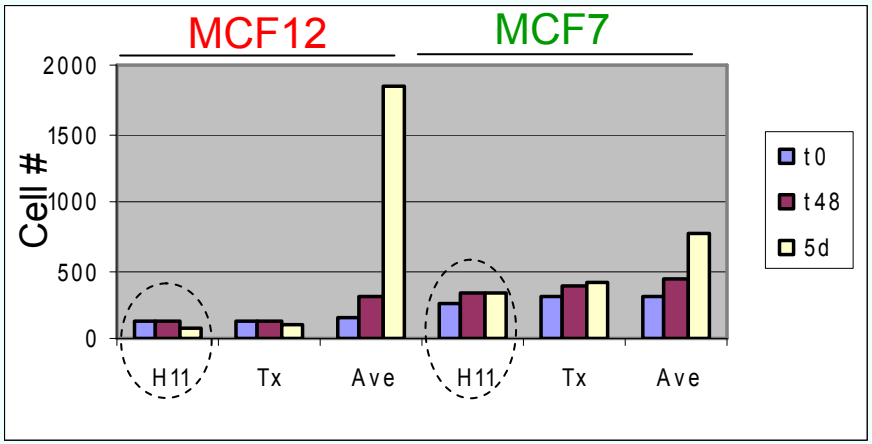


λ535nm segmentation

Screening for Selective Growth Inhibition

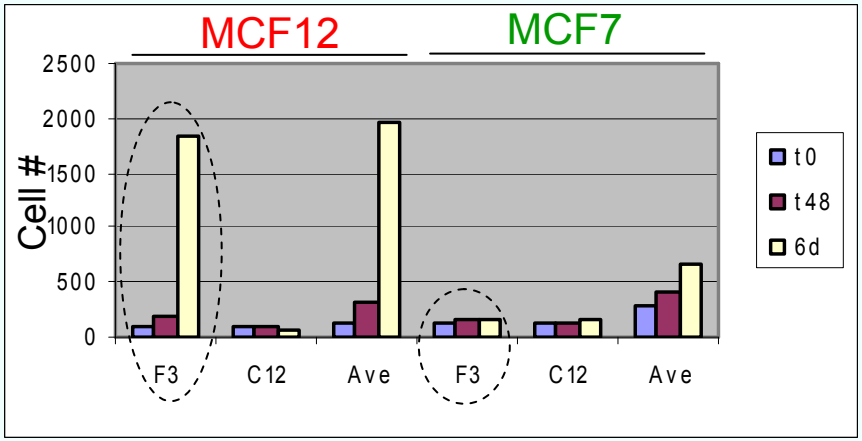
~50/10,000 compounds

Non-selective inhibition

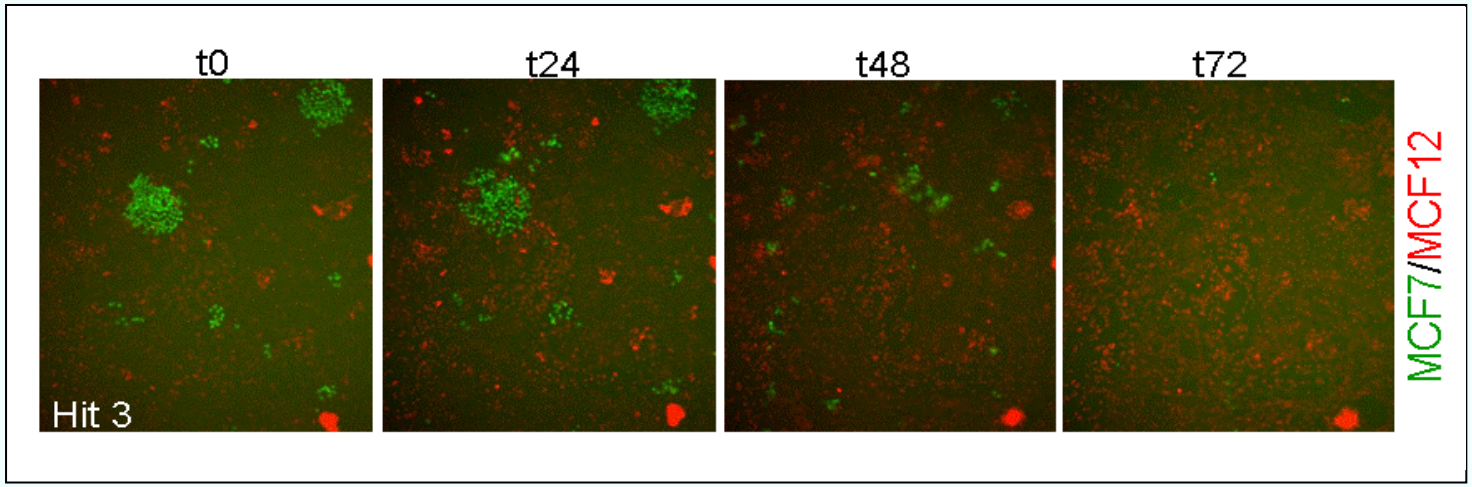


~2/10,000 compounds

Selective inhibition



Selective induction of cell death



Jennifer Beaumont

Prof. Peter Klinken

Rachel Ramsdale

Catherine Liptrot