Kinetic Proliferation Assay

cellplayer™
PROLIFERATION

Real-time cell counts.

Labeled or non-labeled capabilities.

HD images & time-lapse movies.

ESSEN BioScience

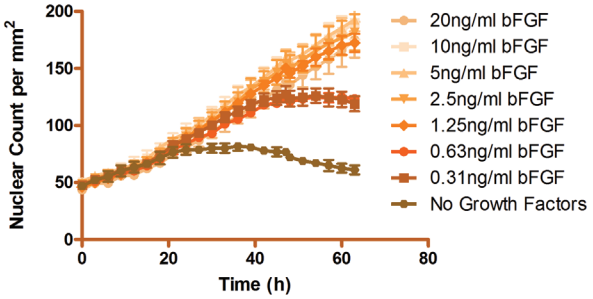
NEW FRONTIERS IN LIFE SCIENCE

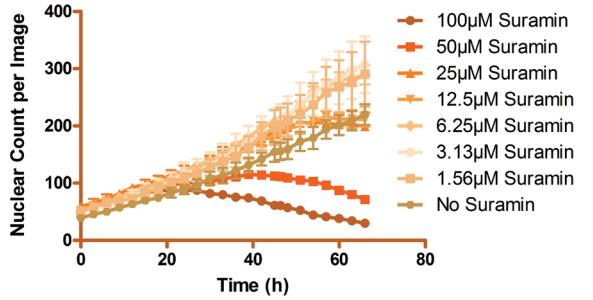
cellplayer™
PROLIFERATION

Measure kinetic proliferation using real-time cell counts.

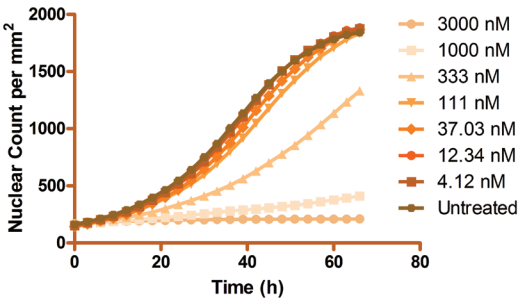
Combine our CellPlayer NucLight™ Red and NucLight™ Green reagents with the IncuCyte ZOOM™ to:

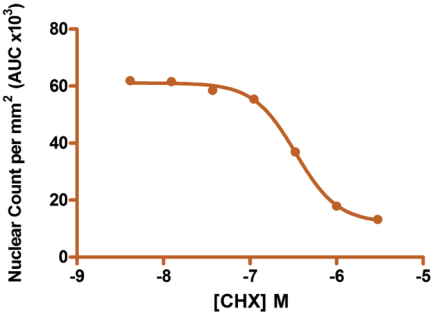
- **Measure proliferation directly:**
  - Real-time nuclear counts at 4x, 10x, or 20x
  - 96- or 384-well microplates provide 576 or 2,304 wells of data at each time point
  - Automated image acquisition and processing using fully-integrated software algorithms
  - Cells are never removed from the incubator
  - High-resolution images and movies confirm morphology and inhibitory effects
- **Calculate doubling times** based on nuclear counts without lifting cells
- **Avoid indirect measurements** using surrogate markers at an ambiguous end point
- **Interrogate the effects of growth factors** on proliferation of primary and immortalized cells
- **Investigate anti-proliferative effects** of various treatments on your cells

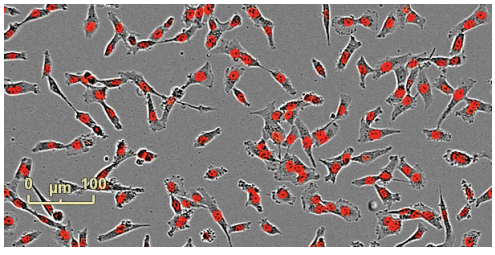


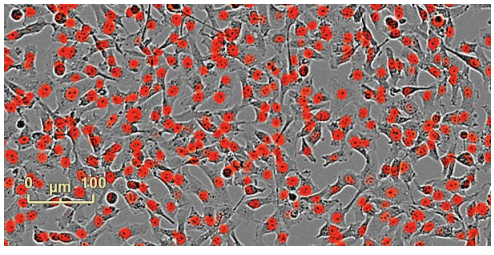


HUVEC were infected with the NucLight-Red lentivirus reagent, replated, serum starved for 2 hours and treated with basal media containing 1% FBS, and increasing amounts of bFGF (top), or a constant 10ng/ml bFGF and increasing concentrations of suramin (bottom) . Images were acquired every 3 hours in an IncuCyte ZOOM with either a 4x objective (top) or 10x objective (bottom). Nuclei were counted over the full course of the assay. EC_{50} and IC_{50} calculations were made using area under the curve (AUC) values for each condition.









HT 1080 cells infected with the NucLight™ Red lentivirus reagent were treated with increasing concentrations of cycloheximide (CHX) and imaged at 4x in an IncuCyte ZOOM every 3 hours (n=3 wells per treatment in a 96-well plate). Although no alterations in cell morphology were observed, concentration dependent inhibition of cell proliferation was detected. Area under the curve (AUC) values were calculated for each treatment group and used to determine the IC_{50} value of this compound. Doubling times were calculated using exponential growth equation in GraphPad Prism 5.0. Representative images were taken at 48 hrs.