Assay Name: Label-free adherent cell proliferation using confluence

Assay ID: Celigo_05_0001

Description: Monitor proliferation of adherent cells with confluence area measurements

Stains: Label-Free

Imaging channels: Bright Field

Image analysis algorithm: Celigo software Confluence

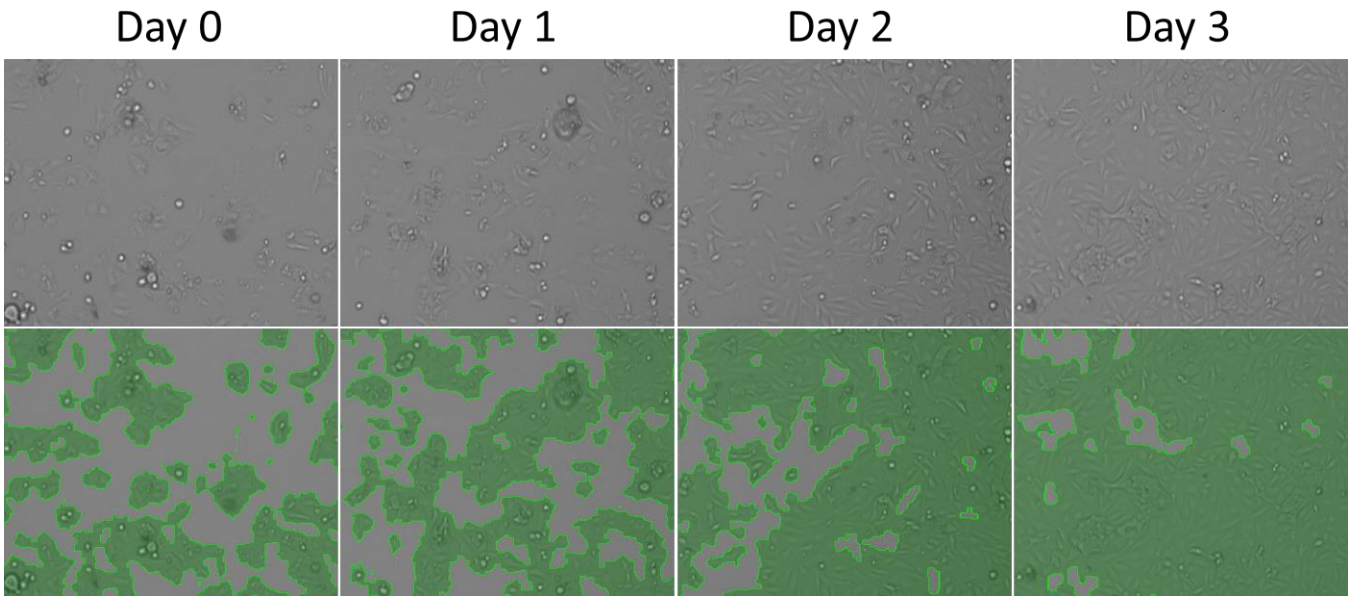
Methods:

1. Culture and collect adherent cells
2. Seed the adherent cells in a 96-well microplate at 2,000 cells/well
3. Centrifuge the microplate using a swing bucket rotor centrifuge for 5 min to settle down all the cells
4. Add drug treatments after overnight incubation
5. Use Celigo and capture images and analyze confluence percentage of adherent cells in the bright field images at multiple time points

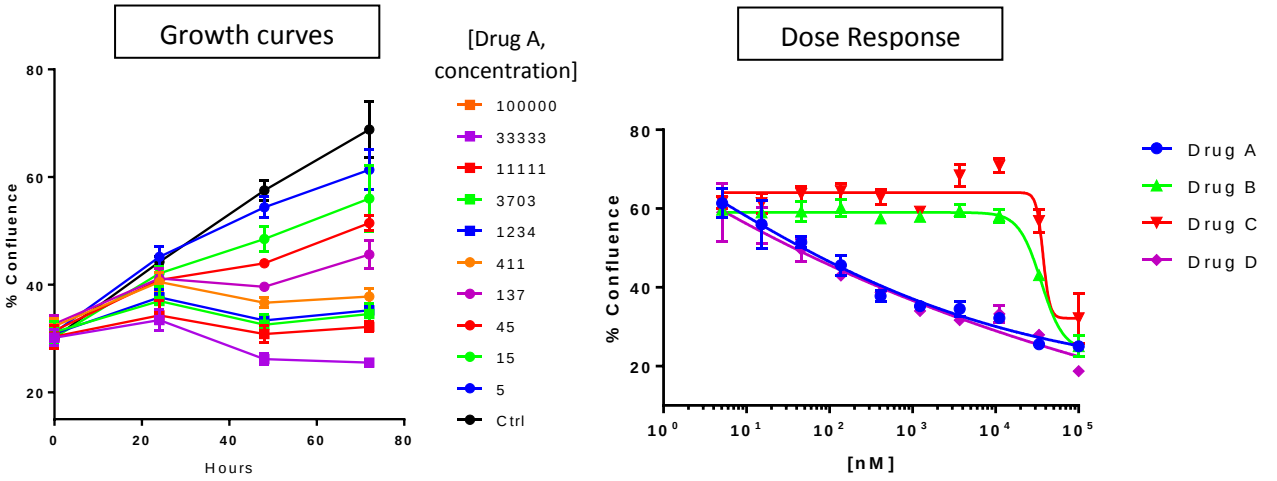
Results:

Measuring confluence of adherent cells using Celigo image cytometer

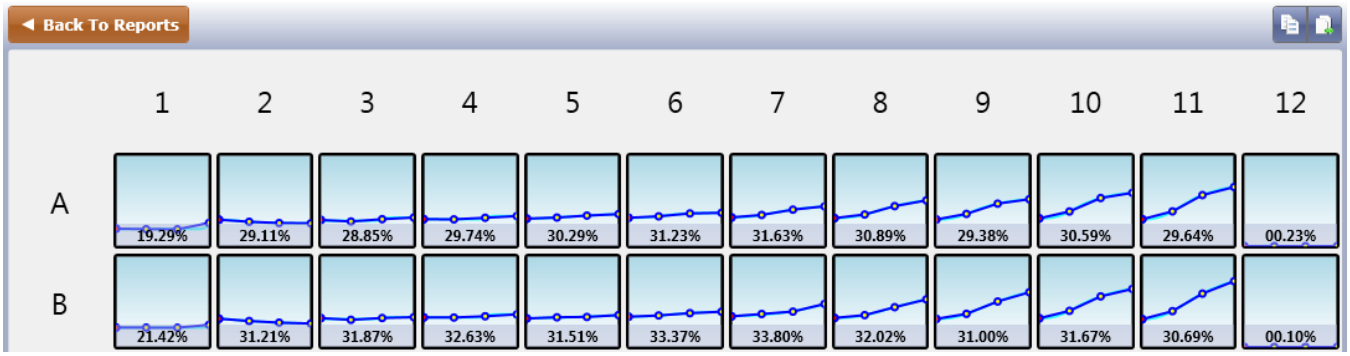
- Example of counted adherent cell confluence area at different time points
- The contrast of the adherent cell membrane allows the Celigo software to accurately count all the cells



- By performing confluence measurement on cell samples in different well with drug treatments, a time-dependent and dose response graph can be plotted



- In addition, multiple time points can be captured by Celigo to create growth tracking of adherent cells over time



- The method allows high-throughput label-free confluence measurement of adherent cells
- The Celigo can rapidly and accurately measure confluence in standard multi-well microplates
- Both drug dose response curves and growth tracking curves can be generated from the measured data