

Assay Name: 3D multicellular tumor spheroid (MCTS) growth inhibition screening assay

Assay ID: Celigo_03_0004

Description: Monitor the effect of a panel of drugs on the growth inhibition of U87MG Glioblastoma MCTS

Stains: Label-Free

Imaging channels: Bright Field

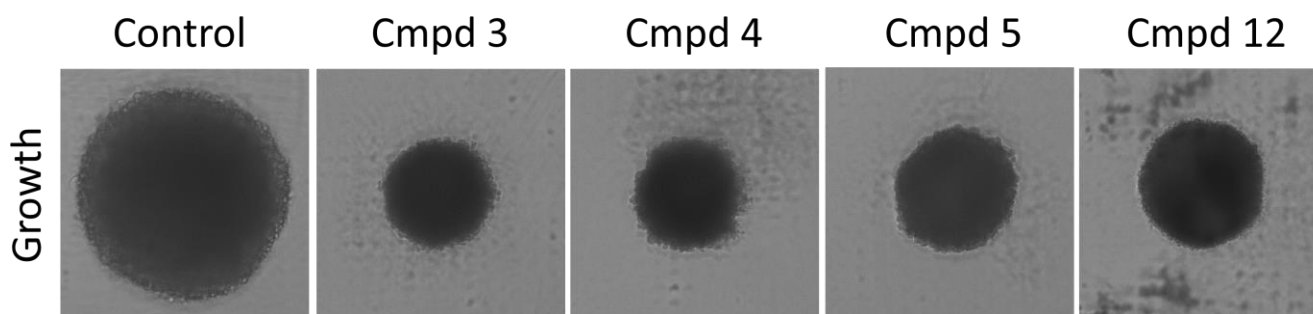
Image analysis algorithm: Celigo software Tumorsphere 1

Methods:

1. Seed 500 U87MG cells/well in ULA 384-well plates
2. On day 4, add serially diluted different drug compounds at 2x and a vehicle control in media
3. Monitor growth inhibition by imaging and analyzing each 384-well plate at ~4 min/plate on Day 4, 7, 9, 11, and 13 with the Celigo imaging cytometer
4. Measure the spheroid diameters on Day 4, 7, 9, 11, and 13 for each drug compound treated MCTS
5. Compare the spheroid diameters for each drug compound at each time point to characterize the tested compounds

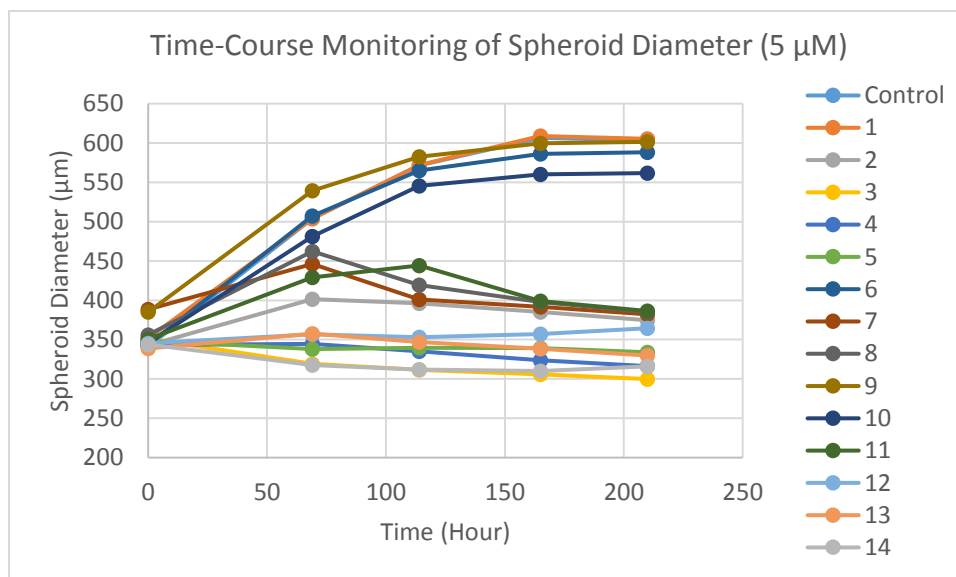
Results:

Celigo-captured Bright Field images showing growth inhibition of the U87MG MCTS



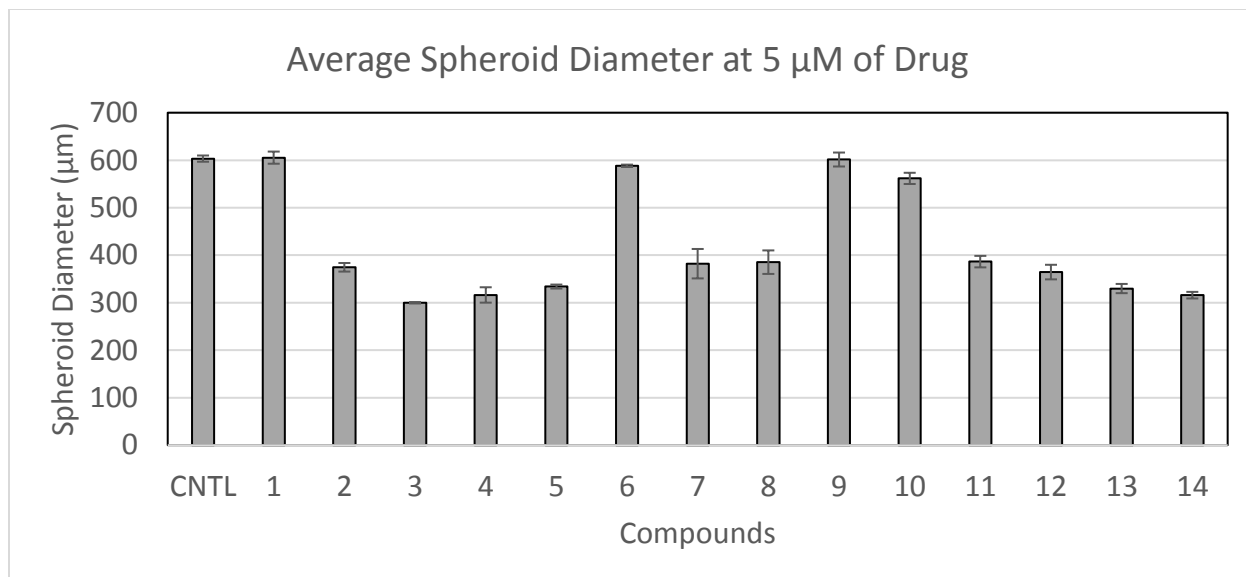
- The bright field images were analyzed to measure the spheroid size in diameter for all the MCTS
- The images above showed that some drug compounds can induce inhibition of spheroid growth

Kinetic measurement of 3D MCTS growth inhibition



- The plot above was generated by exporting the data from Celigo into excel and graphing the spheroid diameters over time
- The plot showed some of the drug compounds did not inhibit spheroid growth while other compounds showed moderate to high growth inhibition

Endpoint measurement of 3D MCTS growth inhibition



- The plot above was an endpoint plot at Day 13 showing Control, 1, 6, 9, and 10 allowed normal growth of the spheroids
- The rest of the drug compounds tested inhibited the growth of MCTS