



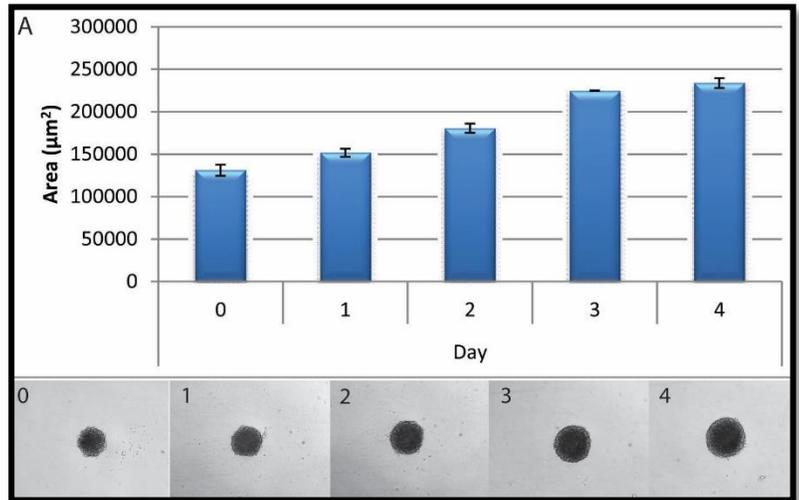
CULTREX® 3-D SPHEROID ASSAYS

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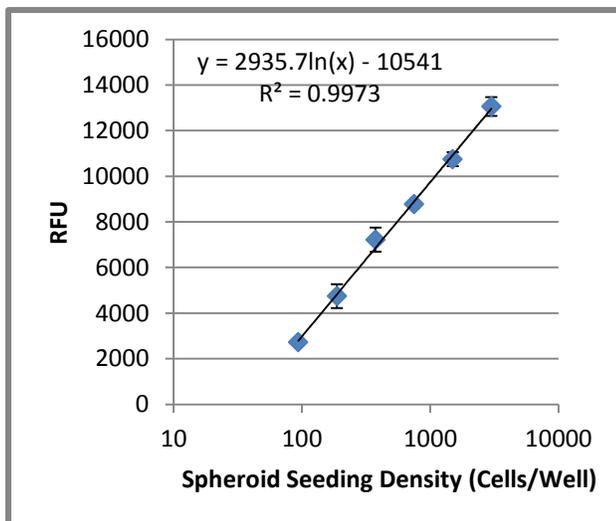
3-D Spheroid

Proliferation/Viability Assay

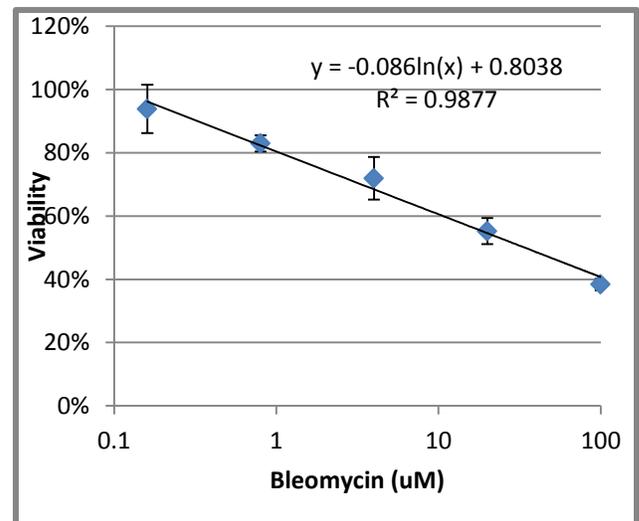
Combines the appropriate spheroid formation extracellular matrix and spheroid formation plate to promote aggregation and/or spheroid formation. This model establishes physiological gradients for nutrients, oxygen, catabolites, and pH due to limitations in diffusion through multicellular layers. These gradients also promote the creation of heterogeneous cell populations with proliferating cells on the spheroid surface, quiescent cells in the intermediate layers, and necrotic cells in the core, similar to an avascular tumor. Uniform spheroid size and physiology is determined through cell seeding, providing a robust and reproducible assay format for drug screening or pathway analysis. Spheroid proliferation or viability may be evaluated by image analysis, and the assay is provided in either colorimetric (MTT) (3511-096-K) or fluorometric (Resazurin) (3510-096-K) for quantitative analysis.



3-D culture proliferation of MDA-MB-231 breast cancer spheroids-
time lapse expansion of MDA-MB-231 spheroids over a 96 hour period.



Spheroid cell number corresponds to fluorescence output for MDA-MB-231 breast cancer spheroids. Cells were seeded at the corresponding concentrations in the presence of spheroid formation ECM and incubated for 72 hours at 37 °C, 5% CO₂ to induce spheroid formation. At that time, 50 µl of complete medium was added to each well, and spheroids were incubated at 37 °C, 5% CO₂ for 96 hours and analyzed using resazurin.

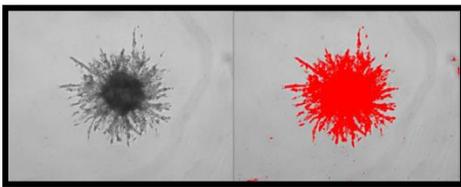
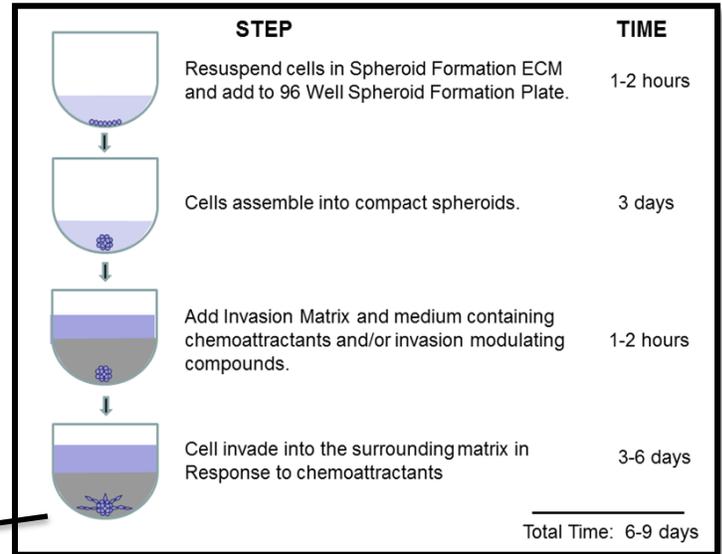


Inhibition of MDA-MB-231 cell spheroid viability by Bleomycin. Cells were seeded at 3,000 cells/well in the presence of spheroid formation ECM and incubated for 72 hours at 37 °C, 5% CO₂ to induce spheroid formation. Spheroids were then treated with the corresponding doses of Bleomycin, incubated at 37 °C, 5% CO₂ for 96 hours, and analyzed using Resazurin.

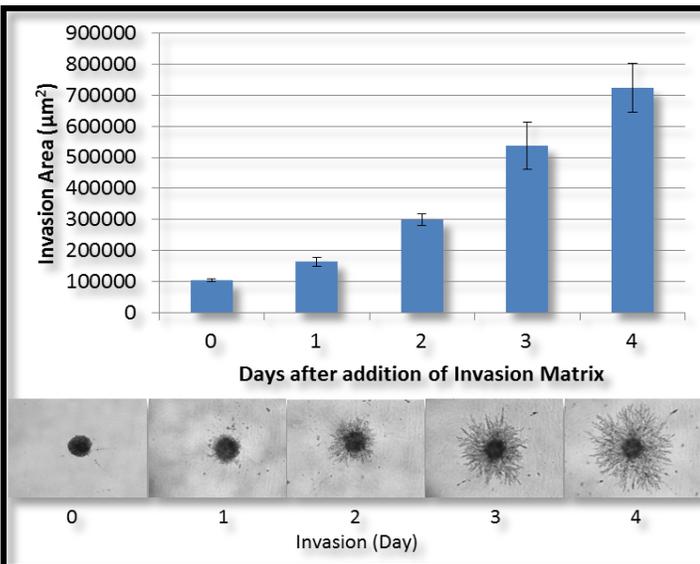


3-D Spheroid Cell Invasion Assay

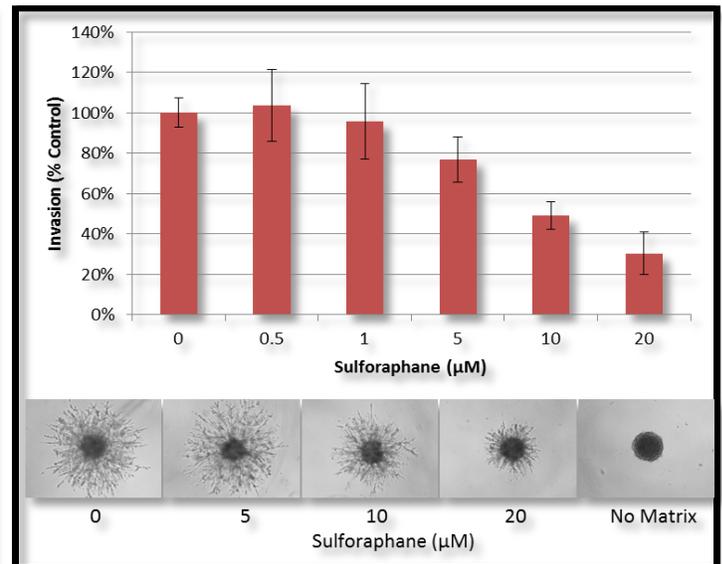
Utilizes a 3-D Culture Qualified 96 Well Spheroid Formation Plate with a specialized Spheroid Formation ECM to drive aggregation and/or spheroid formation of cells. Upon completion of spheroid formation, the spheroid is embedded in an invasion matrix composed of basement membrane proteins. This matrix forms a hydrogel network through which invasive cells can travel. At this point, invasion modulating agents can be applied to the system to evaluate the impact on cell response. Cell invasion is visualized microscopically and can be quantitated through image analysis software.



ImageJ analysis of spheroid invadabrachia.



Spheroid invasion by MDA-MB-231 breast cancer spheroids over a 96 hour period.



Inhibition of spheroid invasion by MDA-MB-231 breast cancer spheroids by Sulforaphane over a 96 hour period.

ORDERING INFORMATION:

Name	Catalog Number	Size
Cultrex® 3-D Spheroid Fluorometric Proliferation/Viability Assay	3510-096-K	96 samples
Cultrex® 3-D Spheroid Colorimetric Proliferation/Viability Assay	3511-096-K	96 samples
Cultrex® 3-D Spheroid Cell Invasion Assay	3500-096-K	96 samples

Trevigen, Inc.