

PRODUCT SPOTLIGHT

ThawReady™ by ATCC EFFORTLESS SPHEROIDS, CONSISTENT PERFORMANCE

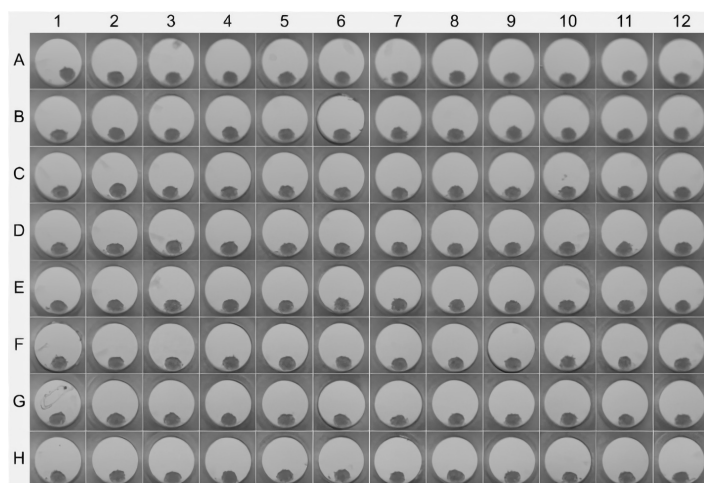
THAWREADY™ A549 SPHEROID KIT (ATCC® SCM-CCL-185-2PLT™)

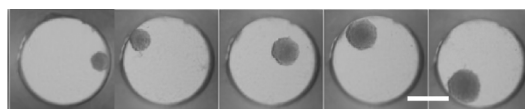
The ThawReady™ A549 Spheroid Kit contains a 96-well plate that consists of 20 μ L of frozen A549 cell solution in a cryoprotective agent within each well. The number of cells per well has been optimized to allow the formation of a single spheroid. This is achieved after 5 days of cell culture. The image on the right is a typical representation of A549 spheroids on day 5 after thawing the plate using the Quick Start Guide protocol included in our ThawReady™ Spheroid Kit.

ThawReady™ A549 plates can be employed to supplant conventional 2-dimensional cell cultures for all major assays.

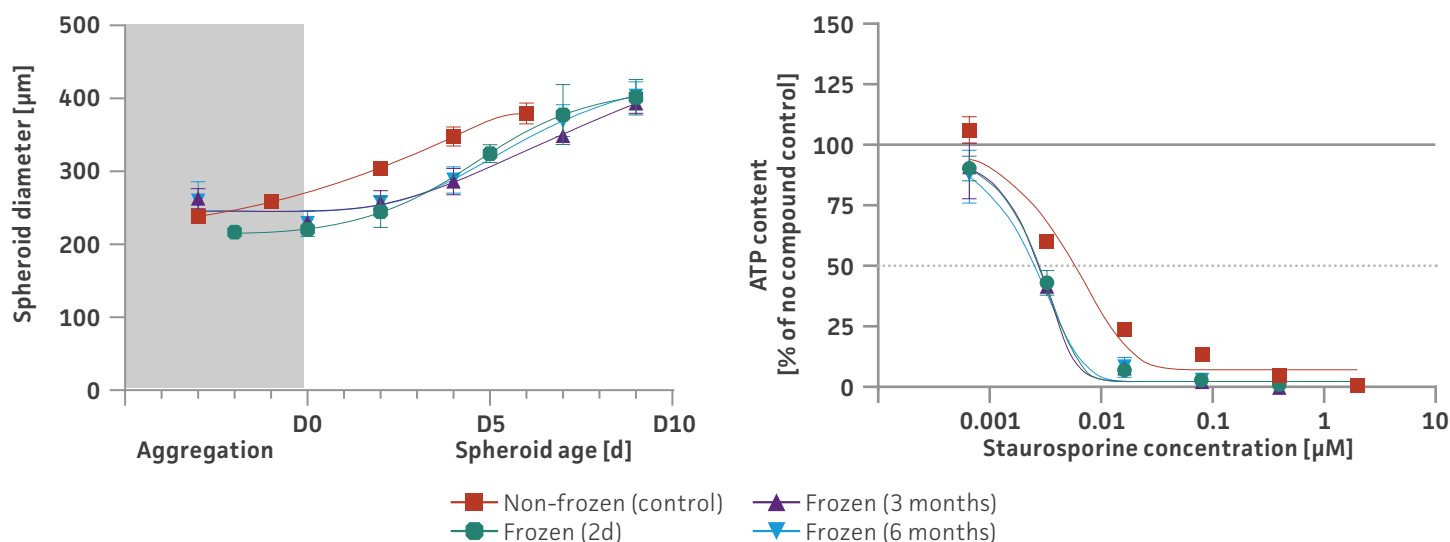
REFERENCE DATA SET

The A549 cell line was evaluated for its growth rate, viability, and capacity to form 3-D spheroids. For the A549 model, the recovery of cells and the formation and maturation of spheroids will take up to five days after the plate has been thawed. The completion of spheroid formation defines experimental day 0 as the point at which a typical treatment/experiment can be initiated. The growth in terms of proliferation and spheroid size was measured over a subsequent 9-day assay duration and benchmarked using the apoptotic agent staurosporine in a relevant concentration range.

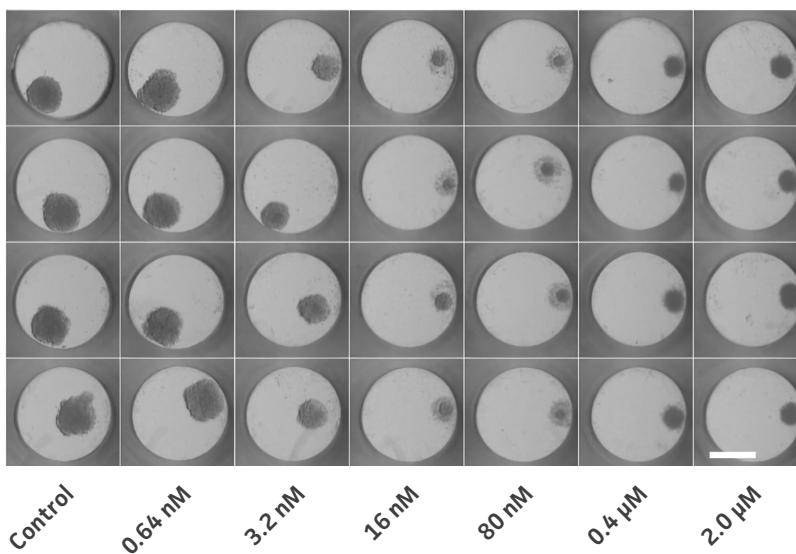




Day 0 → Day 9
Bright Field images of a typical A549 spheroid; size over time from post aggregation to Day 9 (scale = 500 μm)



The results from ThawReady™ plates with cell line A549 from the same production run at different time points were compared to a non-frozen plate with cells from the same culture flask. The results demonstrate comparable growth and response to staurosporine.



BENCHMARK DATA SET FOR DOSE RESPONSE

Brightfield images of technical replicates (N=4) of tumor spheroids on Day 9 for cell line A549 showing consistent responses to increasing concentrations of staurosporine (scale = 500 μm). The ATP values are shown above.

CELL LINE ORIGIN

A549 cells (ATCC® CCL-185™) were isolated from the lung tissue of a Caucasian, 58-year-old male with lung cancer. This cell line can be used in cancer, immuno-oncology, and toxicology research.

Cell Line		Model set up	
Product category	Human cells	Model type	Monotypic tumor spheroid
Organism	<i>Homo sapiens</i> , human	Assay-ready*	5 days in culture, 1 spheroid per well
Morphology	Epithelial-like	Morphology	Compact, spheroidal
Tissue	Breast	Size day 5 after thawing	~300 to 380 µm
Disease	Lung	Size differences between spheroids	<15% in-plate <20% batch-to-batch
Applications	3-D cell culture Bioproduction Cancer research High-throughput screening Toxicology	Assay Application***	
		Assay window**	Up to 9 days
		Viability ATP Day 5	~10 to 20 pmol/MT
		Metabolism differences between spheroids	< 20% in plate < 25% batch-to-batch
		EC50 Staurosporine	0.003 µM
		Dose response variation	< 10%

*Use recommended Aggregation Medium

**Use Tumor Maintenance Medium

***Results may vary on handling and assay conditions


Table 1: Available ThawReady™ 3-D Spheroid Kits


ATCC® No.	Designation	Components
SCM-HTB-133-2PLT™	ThawReady™ T-47D Spheroid Kit	2 plates of ThawReady™ T-47D cells 1 bottle ThawReady™ Spheroid Aggregation Media 1 bottle ThawReady™ Spheroid Maintenance Media 1 ThawReady™ Spheroid Assay Stand 1 ThawReady™ Spheroid Assay Balance Plate
SCM-CCL-185-2PLT™	ThawReady™ A549 Spheroid Kit	2 plates of ThawReady™ A549 cells 1 bottle ThawReady™ Spheroid Aggregation Media 1 bottle ThawReady™ Spheroid Maintenance Media 1 ThawReady™ Spheroid Assay Stand 1 ThawReady™ Spheroid Assay Balance Plate
SCM-CCL-247-2PLT™	ThawReady™ HCT 116 Spheroid Kit	2 plates of ThawReady™ HCT 116 cells 1 bottle ThawReady™ Spheroid Aggregation Media 1 bottle ThawReady™ Spheroid Maintenance Media 1 ThawReady™ Spheroid Assay Stand 1 ThawReady™ Spheroid Assay Balance Plate

WWW.ATCC.ORG/THAWREADY-SPHEROIDKITS



 10801 University Boulevard
Manassas, Virginia 20110-2209

 703.365.2700

 703.365.2701

 sales@atcc.org

 www.atcc.org

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