

DUET Co-Culture vs. Snapwell Inserts

A Practical Guide to Choosing the Right Co-Culture Platform

Selecting the appropriate co-culture system begins with the biological question:

Does the experiment require a physical membrane barrier, or is the goal to monitor dynamic interaction between populations over time?

Both DUET™ Co-Culture plates and Snapwell™ inserts from Corning® enable compartmentalized interaction studies, yet they were engineered to address different experimental objectives. DUET™ was developed specifically for dynamic interaction analysis, real-time optical monitoring, and scalable plate-based workflows, making it well suited for most interaction-driven co-culture applications. Its format supports streamlined handling and automation compatibility while enabling continuous kinetic data collection. Snapwell™ inserts remain valuable for membrane-dependent mammalian models where barrier function, migration, or polarized apical-basolateral orientation are central to the study design.

Platform Overview

DUET™ Co-Culture

Two laterally separated chambers within a single microplate well.

- Shared soluble environment
- Same optical plane
- Semi-permeable membrane (0.2 μm typical)
- Designed for kinetic interaction studies
- Compatible with standard plate readers and automation

Built for dynamic biological interaction.

Snapwell™ Inserts

Vertical membrane insert placed within a standard multiwell plate.

- Defined membrane pore sizes (0.4–8 μm)
- Apical and basolateral compartments
- Designed for barrier and migration modeling
- Used in combination with receiver plates

Built for membrane-based assays.

Where Each Platform Is Strongest

Strength Area	DUET™ Co-Culture	Snapwell™ Inserts
Real-time kinetic monitoring	✓ Continuous, non-destructive measurement	✗ Not optimized for real-time monitoring
Automation & high-throughput workflows	✓ Standard microplate format	✗ Insert-dependent handling limits throughput
Sampling simplicity	✓ No insert removal required	✗ Requires insert manipulation
Barrier / polarization modeling	✗ Possible with surface treatments	✓ Purpose-built for barrier studies
Membrane pore size flexibility	✗ Limited but broadly applicable options	✓ Extensive pore size range for mammalian models

Feature Comparison

Feature / Aspect	DUET™ Co-Culture (Cerillo)	Snapwell™ Inserts (Corning)
General Format	Multiplexed microplate with 18 paired “duets” separated by a semi-permeable membrane	Permeable membrane inserts placed into standard multiwell plates
Physical Separation	Lateral (side-by-side) separation via semi-permeable membrane	Vertical separation via membrane between insert and receiver well
Membrane Pore Size	Typically 0.2 µm (small molecules diffuse; cells retained)	0.4–8 µm options; support signaling, exclusion, or migration depending on pore size
Volume per Chamber	~800–1000 µL per reservoir	Varies by insert size and plate format (e.g., ~2.6 mL in 6-well)
Format Compatibility	Standard microplate footprint; automation compatible; removable duets	Used with receiver plates
Ease of Setup & Access	Direct access to both reservoirs; automation-ready	Access via top insert and bottom well; additional handling required
Throughput	18 interaction pairs per plate; automation compatible	Dependent on plate format; insert assembly required
Real-Time Data Collection	Designed for continuous plate reader measurements	Primarily endpoint; real-time requires manual sampling
Applications	Microbial interactions, phage studies, mammalian co-culture, secreted factor assays	Barrier models, migration/invasion assays, transport studies
Ease of Use & Contamination Risk	Side-by-side design reduces fluid shift and contamination risk	Vertical format requires careful handling during media exchange
Automation & Scalability	Compatible with liquid handlers and robotics; supports high-throughput workflows	Primarily manual workflow; scalability plate-dependent
Typical Research Goals	Direct population interaction, kinetic assays, high-throughput screening	Spatial separation, migration, polarized barrier modeling

The Bottom Line

DUET™ Co-Culture was developed for modern plate-based research environments where real-time insight, automation compatibility, and kinetic data collection are essential. Its architecture enables dynamic monitoring of biological interactions without the added complexity of vertical membrane inserts.

DUET™ enables:

- Direct, unobstructed optical measurement
- Continuous, non-destructive kinetic monitoring
- Simplified handling and sampling
- Scalable, high-throughput integration

Snapwell™ inserts remain important tools for membrane-dependent mammalian barrier models where polarized orientation or migration across a defined membrane is required.

For most interaction-focused co-culture studies, DUET™ provides a clearer, more efficient path to meaningful data.

Learn More

To explore DUET™ Co-Culture plates or discuss application alignment, visit www.cerillo.bio or contact info@cerillo.bio.

A Simple Decision Guide

Start with one question:

Does the study require a porous membrane?

If yes → Snapwell™ Inserts

If no → DUET™ Co-Culture

Then consider:

- Is real-time optical monitoring important?
- Is the goal dynamic interaction between populations?
- Is automation or high-throughput scalability required?

If these are priorities, DUET™ provides a more streamlined and scalable solution.