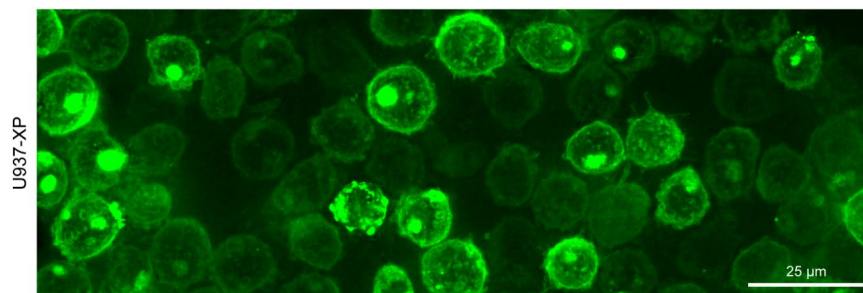


## UNLOCKING THE SECRETS OF CELL COMMUNICATION IN REAL TIME

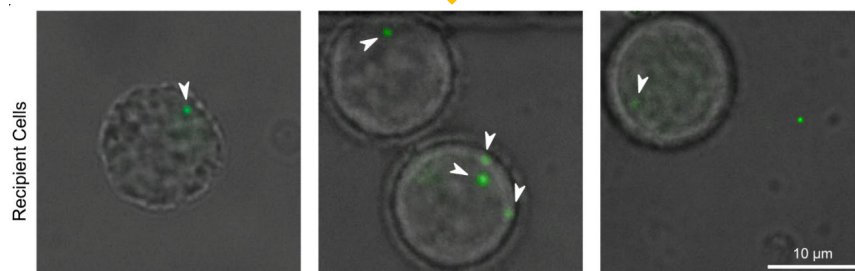
This advanced microfluidic platform is designed to study intracellular communication via extracellular vesicles (EVs) in real time. Leveraging selectively permeable barriers, this platform enables the monitoring of EV-mediated interactions between co-cultured cells under physiologically relevant conditions. Its innovative design eliminates the need for time-consuming EV purification, providing an efficient and scalable solution for researchers.

### Key Features

- **Real-Time Monitoring:** Tracks the exchange of exosomes and other EVs between cell populations
- **Physiological Relevance:** Mimics tissue environments with extracellular matrix barriers for accurate *in vitro* studies
- **Selective Permeability:** Allows only small EVs and soluble factors to diffuse, simulating natural intracellular communication
- **Versatile Design:** Compatible with a variety of hydrogels, enabling size-selective diffusion or complete EV blockage for control experiments
- **Resource Efficient:** Requires minimal cell and media volumes, reducing operational costs and complexity



A Matrigel-loaded chip was injected with U937-XP cells, and the cells were visualized 1 h later. Using a GFP emission filter (original magnification = 1000x; 3D deconvoluted.).



Live EV exchange on the microfluidic chip: Transmigration of secreted EVs across the Matrigel channel and their internalization by recipient cells.

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