

# Compartmentalized cell aggregate culture system

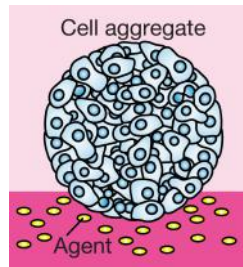
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Keywords: compartmentalized cell culture, tumor cell, stem cell



## Context

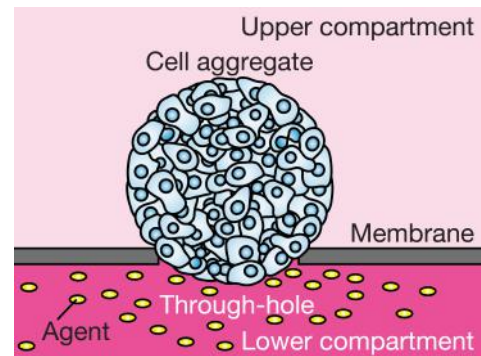


**Overall goal: Development of compartmentalized cell aggregate culture system and its application**

**Status of consensus problems:**  
Methodology for spatially confined exposure of agents to cell aggregate is not well established

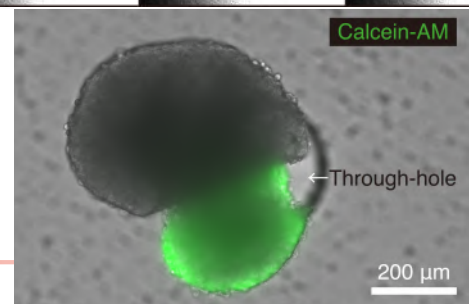
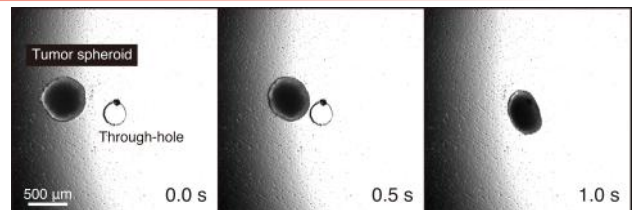
## Objectives

- Development of a compartmentalized cell aggregate culture system with a through-hole membrane
- Cell aggregate is immobilized onto the through-hole, with the membrane separating the upper and lower compartments
- Only part of cell aggregate defined by the through-hole membrane is exposed to agents



## Results

- Culture system includes PDMS or PET membrane with through-hole
- A tumor spheroid was immobilized flow between upper and lower compartments induced by hydrostatic pressure
- The parts of the spheroid defined by the through-hole membrane was fluorescently labeled with an agent (calcein-AM)



## Perspectives

- System for tumor spheroid for drug penetration study
- System for embryoid body to induce spatially-confined differentiation

## Contacts

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