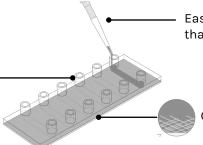
Chitozen

Image bacteria in 2D

Chitozen is composed of chitosan-coated coverslips allowing observation immobilization and of live bacteria under microscope, without altering their physiology.

Microfluidic channel sticky-slide, sticked to the chitosan-coated coverslip.

X6 channels/slide



Easy bacterial loading and medium-change, thanks to the channels

Chitosan-coated coverslip

Key features

1. High adherence

Maintains bacteria in a similar focal plane for imaging.

2. Preserves cell physiology

The chitosan coating is free from bacteriostatic effects and does not affect bacteria geometry.

3. Perfusable

Change the medium or add compounds throughout experiment to assess real-time changes in bacterial behavior.

4. Time-saving

Test up to 6 parallel conditions on one slide.

Multiple microscopy techniques compatible:



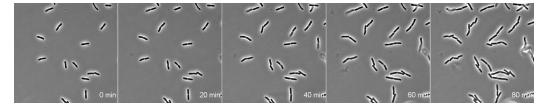
- Phase-contrast
- Epifluorescence
- Confocal
- Super-resolution microscopy
- Atomic force microscopy (AFM)

Results

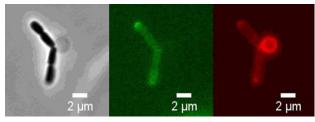
Growth and division of E. Coli on Chitozen

In LB medium, for 80min.

Image credit: Amandine Desorme, LCB, CNRS, 2021



Observation of vesicles at septum during cell division of mutant E. coli using Chitozen



E Coli strain: W3110 ΔtolR – Palmcherry), in LB ½ medium. Peptidoglycan is labeled with the green fluorophore BADA.

Image credit: Amandine Desorme, LCB, CNRS, 2021

Tracking of DNA repair proteins in live cells of Escherichia coli, with TIRF



Cells expressing HaloTagged DNA repair proteins were loaded onto the chitosancoated coverslip and imaged with TIRF microscopy. The Chitozen technology enables tracking single-molecules while changing environmental conditions.

Image credit: Maxence Vincent, University of Oxford, 2022





