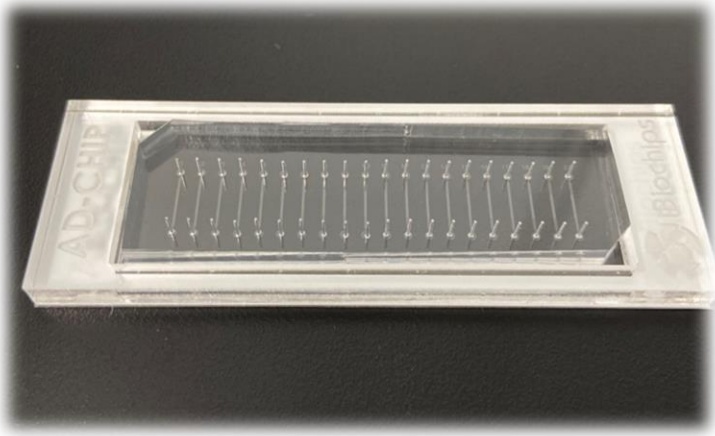


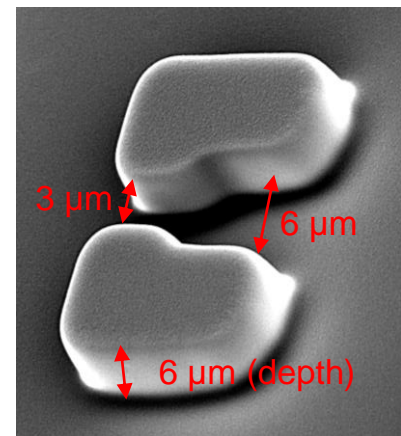
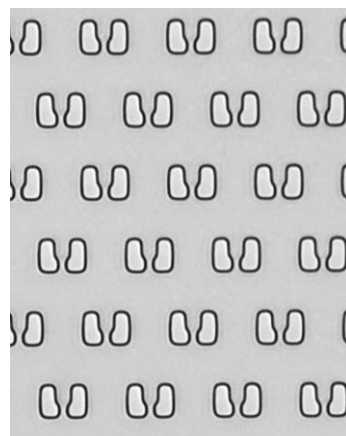
**Automated Dissection Chip (AD-Chip)** provides automated whole-lifespan tracking with high spatiotemporal resolution, minimum manual intervention, and large-scale data quantification of single yeast cells.

AD-Chip has 2 types of traps available

AD-Chip U (U-shaped traps)



Cat. No. [A1-ADU-5PK](#) and [A2-ADY-5PK](#)



## Applications

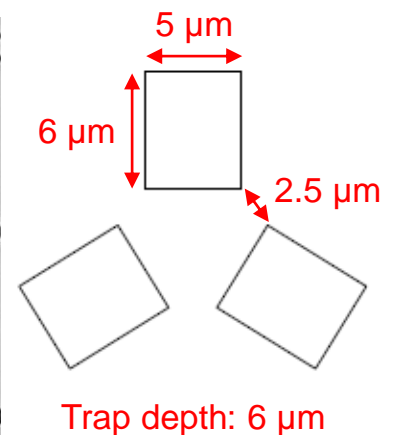
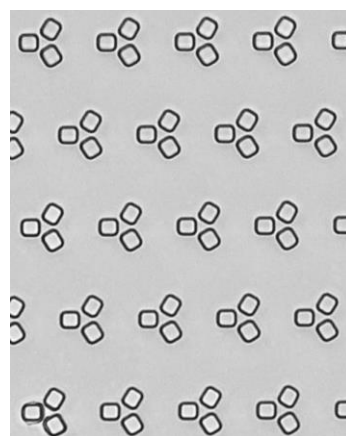
High-Throughput  
Replicative Lifespan Assay

Genetic Screening for Longevity  
Associated Genes

Proteomic Screening for Protein  
Turnover and Relocalization

Nutrient Sensing and  
Signaling Pathways

## AD-Chip Y (Y-shaped traps)



# Features of AD-Chip

## High-Throughput to Reduce Labor & Time

Continuous and automatic dissection of daughter cells without disturbing mother cells, allowing high-throughput lifespan assay of over 10,000 single yeast cells for 20 different strains in 3 days

## High Resolution Fluorescent Imaging

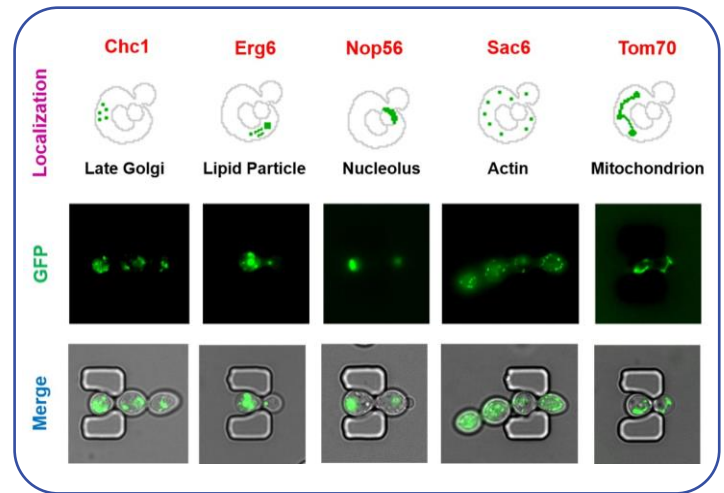
Compatible with high resolution fluorescent imaging for gene expression and molecular markers assays on single-cell level during entire aging process

## Maintaining Constant Growth Condition

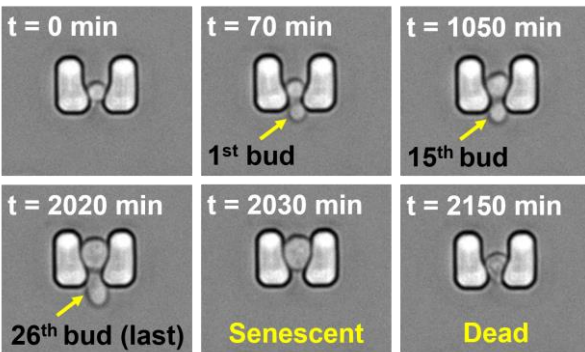
Supply of continuous flow of fresh media, minimizing variations introduced by operators and environment

## Tracking of Virgin Cells (with AD-Chip-Y)

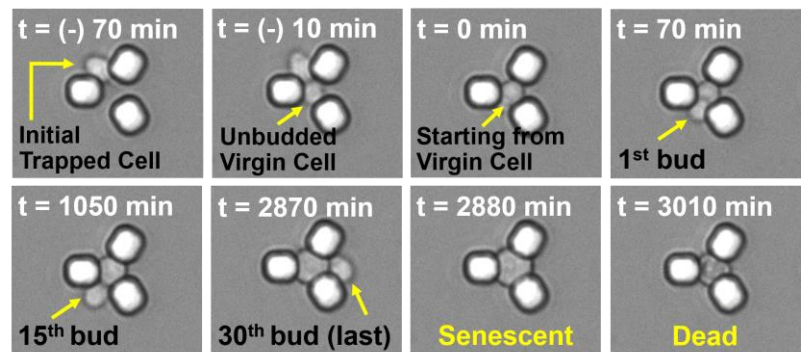
Enable to assay starting from virgin cells, never having previously produced a daughter cell.



## AD-Chip U



## AD-Chip Y



**Reference:** M.C. Jo, et al. "High-throughput analysis of yeast replicative aging using a microfluidic system." *PNAS*, vol. 112 (2015), 9364–9369.

# Specifications of AD-Chip

## Material

- Biocompatible polymer

## Dimensions

- 75 mm (Length), 25 mm (Width), 4 mm (Height)

## Substrate

- Glass coverslip (0.16 mm thickness), allowing simultaneous lifespan and gene expression assays with up to 100X oil objective
- (Upon Request) Microscope slide (1 mm thickness), allowing general lifespan assay with up to 40X objective

## Number of Traps

- Total 18,000 traps (900 traps x 20 separate channels)

## Inlet and Outlet

- 1 Inlet for media & yeasts in and 1 Outlet for waste out