

## Supporting Information

# Cell-Sized Confinement in Microspheres Accelerate the Reaction of Gene Expression

Ayako Kato,<sup>†</sup> Miho Yanagisawa,<sup>§</sup> Yuko T. Sato,<sup>†</sup> Kei Fujiwara,<sup>‡</sup> and Kenichi Yoshikawa.<sup>†,\*</sup>

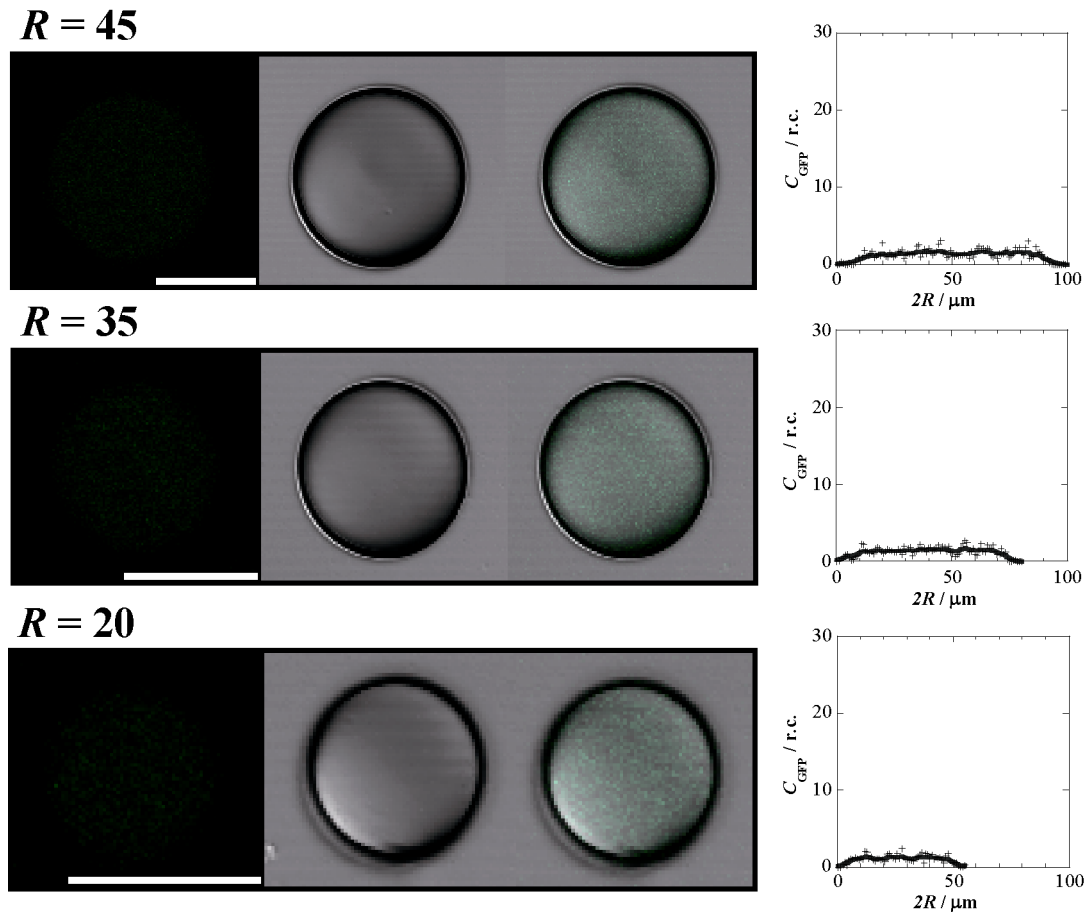
<sup>†</sup> Department of Physics, Graduate School of Science, Kyoto University, Kyoto 606-8501, Japan.

<sup>§</sup> Department of Physics, Graduate School of Sciences, Kyushu University, Fukuoka 812-8581, Japan.

<sup>‡</sup> Department of Bioengineering and Robotics, Graduate School of Engineering, Tohoku University, Sendai 980-8579, Japan

Corresponding author

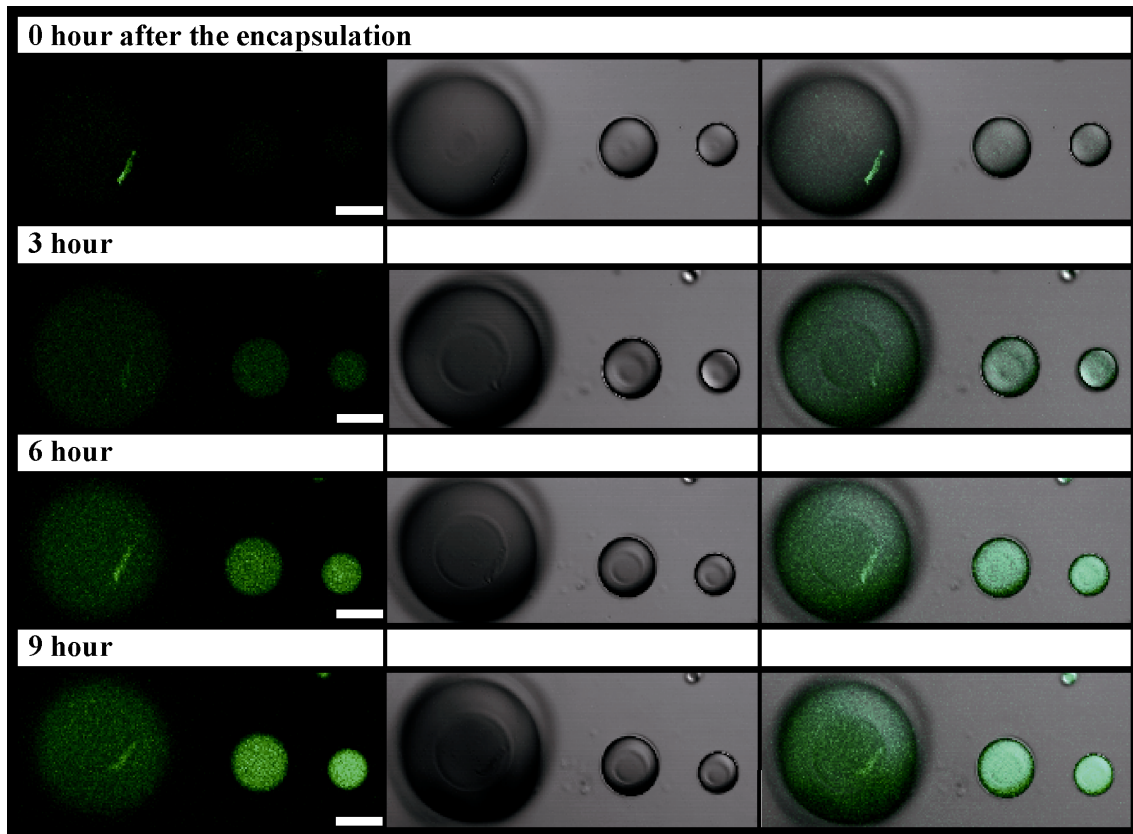
yoshikaw@scphys.kyoto-u.ac.jp



Supplemental figure S1

Figure S1

Distribution of GFP fluorescence for already expressed bulk solution at 25 h in DOPC droplets with different radius  $R$ . These cross-sectional images show (left) GFP fluorescence, (center) the oil/water interface, and (right) the merged image. Scale bar is  $50 \mu\text{m}$ . Each profile of the GFP concentration,  $C_{\text{GFP}}$ , along the diameter was evaluated from the GFP fluorescence intensity per unit volume. Apparent sizes of the droplets are somewhat larger owe to the blurring effect in the cross-sectional fluorescent images.



Supplemental figure S2

Figure S2

Time-lapse images of cross-sectional GFP fluorescence in DOPC droplets after 0 h to 9 h: (left) GFP fluorescence, (center) the oil/water interface, and (right) the merged image. Scale bar is 50  $\mu\text{m}$ .