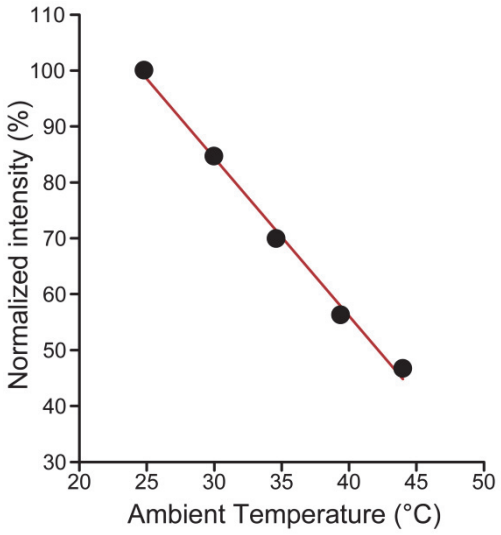
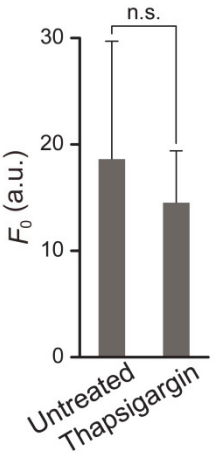
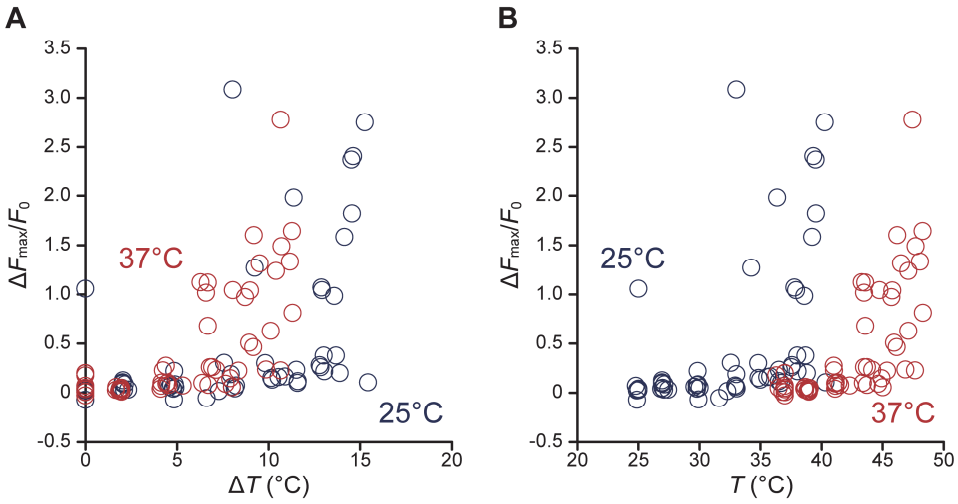
Supplementary Materials



Supplementary Figure S1 Calibration of thermometer sheet using the stage top incubator. Fluorescence intensity of Eu-TTA was measured at indicated ambient temperatures. Data were normalized to the fluorescence intensity at 25°C. The slope of the linear fit (solid line) was −2.8%/°C.



Supplementary Figure S2 Comparison of F_0 between untreated and thapsigargin-treated cells. Data represent mean±standard deviation of F_0. Original data were taken from untreated (n=14 cells) or thapsigargin-treated cells (n=15 cells) in Fig. 2. The p value is 0.27.



Supplementary Figure S3 Effect of ambient temperature on thermosensitivity for a short (2 s) heat pulse (individual data). (A) Relationship between ΔT and $\Delta F_{max}/F_0$. (B) Relationship between T (=ambient temperature+ΔT) and $\Delta F_{max}/F_0$. Plots of data at 25°C (n=58 cells; blue) and 37°C (n=57 cells; red) are shown. Data at each time point were normalized by the average value for 5 s before heating (F_0).

Supplementary Movie S1 Change in ΔT upon IR irradiation at 1455 nm. The laser power was 2.14 W. Scale bar, 20 μm.

Supplementary Movie S2 Ca^{2+} burst induced by a microscopic heat pulse in an untreated WI-38 fibroblast. Image of $\Delta F/F_0$ corresponding to fluo-4 fluorescence; the cell is outlined in white. The laser power was 2.14 W. Scale bar, 20 μm.