



**Fig. S6. The *in vivo* response of guard cells expressing SOMA-NLS-1 to NaCl stress.**

(a-b) Processed confocal images of the cotyledon epidermis from the SOMA-NLS-1 transgenic line. Image depicts the ratio of YPet to Turquoise GLC emission produced by exciting Turquoise GL. The calibration bar in the lower left indicates the numerical scale corresponding to the heat map. Scale bar indicates 100  $\mu$ M. Time stamps are in minutes:seconds. Regions of Interest (ROI) measured is indicated by numbered white rectangles. (a) SOMA-NLS-1 collected at time 00:00. No treatment has been administered. (b) SOMA-NLS-1 collected at time point 18:00. (c) Graph depicts the average ratio of YPet to Turquoise GL emission using the ROIs shown in panels (a-b). The shaded background indicates when the sample was exposed to a given treatment. During the first ten minutes of each experiment the sample are incubated in pure water. “NaCl” indicates 150 mM NaCl, “H2O” indicates pure water. Error bars indicate standard deviation. “Ratio (YFP/CFP)” indicates the normalized value of YPet emission divided by Turquoise GL emission produced by exciting Turquoise GL. Video is available as Movie S1.