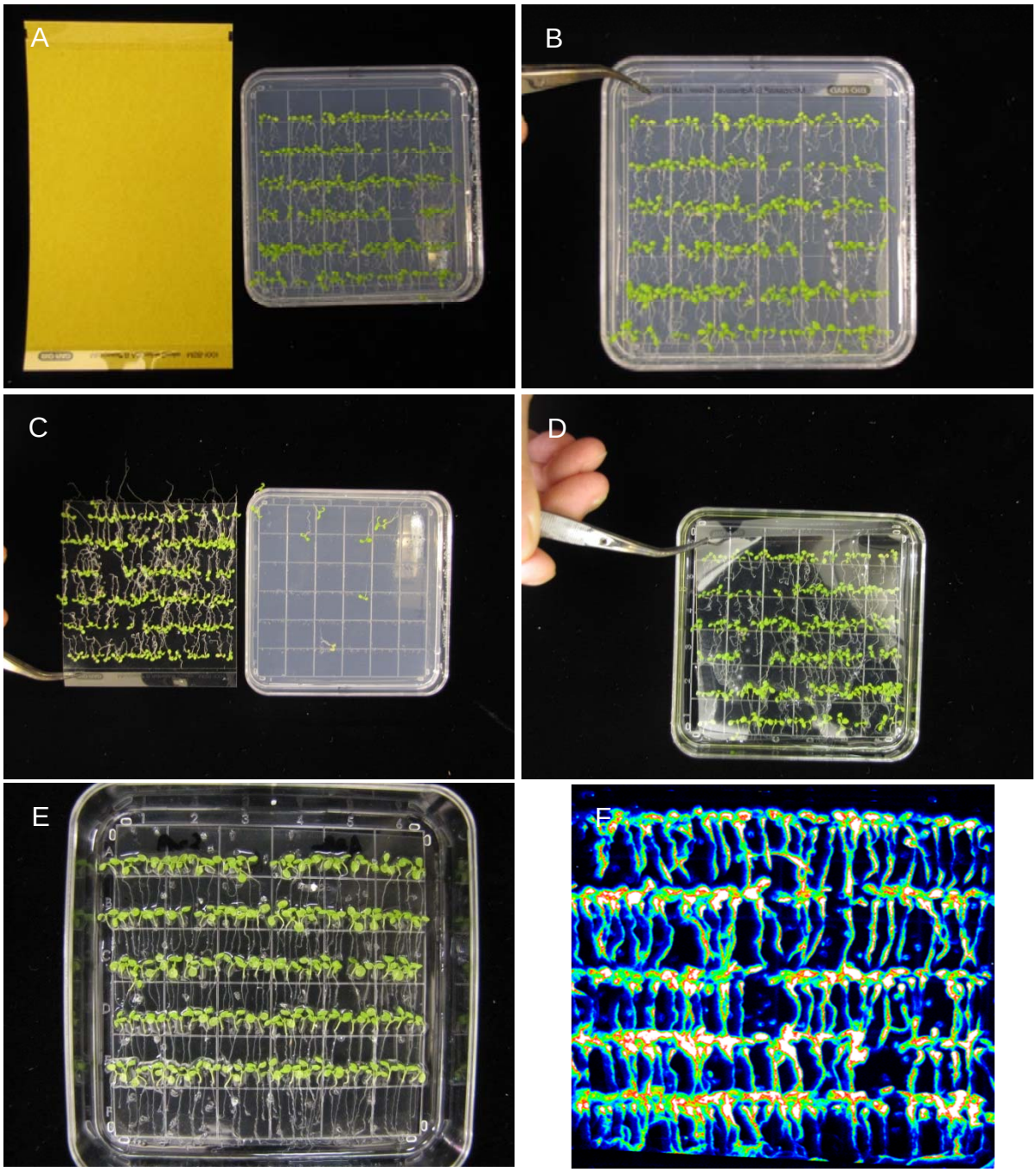

Figure S1. The procedure of FAS luminescence recording. A. Grow seedlings vertically on MS agar in a square petri dish. B. Place an adhesive film on the top of the seedlings. C. Transfer the seedlings to an adhesive film. C. Incubate the seedlings with co-factor h-CTZ for five hours to overnight. D. Apply 20ml of treatment solution to cover the film adhering seedlings. E. Acquire luminescence images.

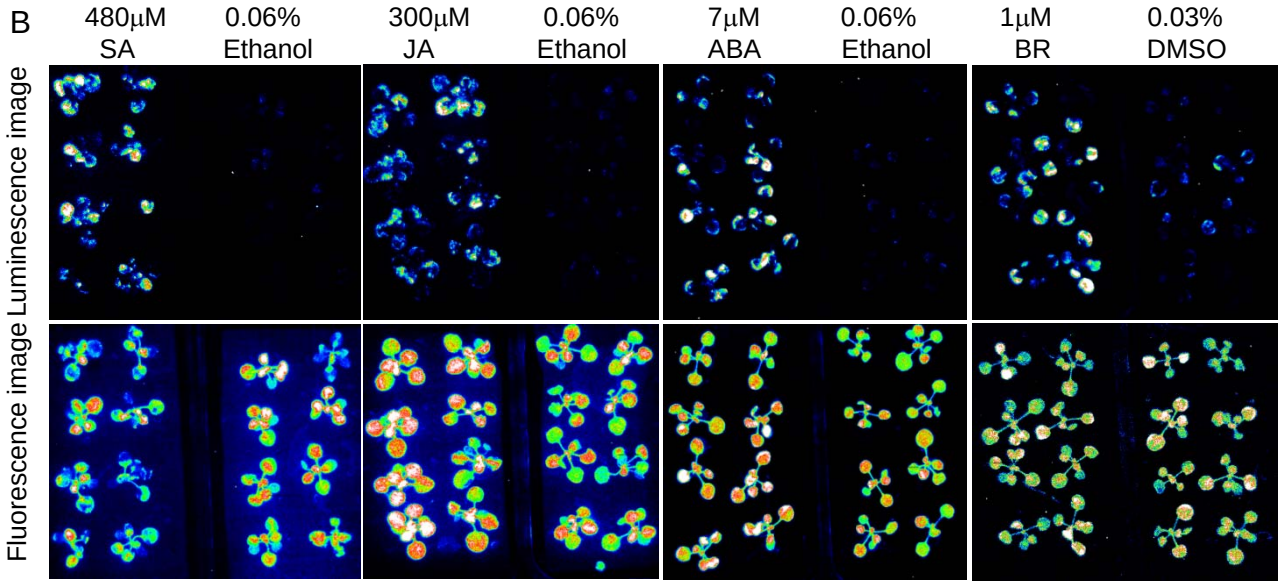

Figure S2. Ca^{2+} responses of two-week-old Arabidopsis seedlings to plant hormones. Integrated luminescence images (upper panels) of two-week-old seedlings at the time point in which the highest Ca^{2+} amplitude occurred in response to SA, JA, ABA and eBL. Concentrations of the compunds are indicated on the top of each panel. Light-illuminated chlorophyll fluorescence images (lower panels) are used as controls to show the plants.

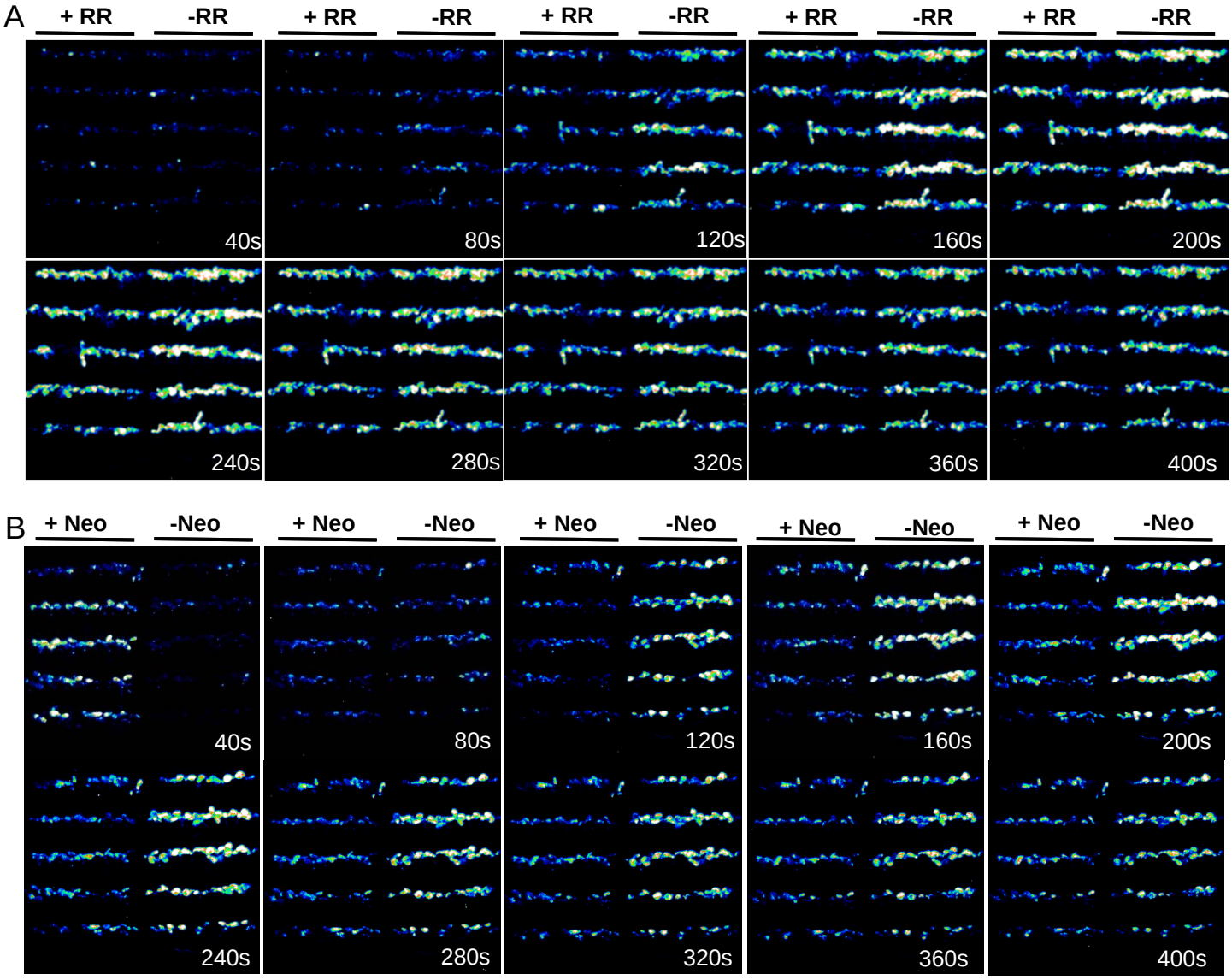

Figure S3. Effect of RR and neomycin on Cd^{2+} triggered Ca^{2+} increase. Time series of integrated luminescence images of FAS were collected with an interval of 40s photon counting integrations upon application of 10 mM $CdCl_2$. Time points are indicated on each image panel. 100 mM RR (A) and 600 mM neomycin (B) treated and untreated FAS are indicated on the top of each panel.