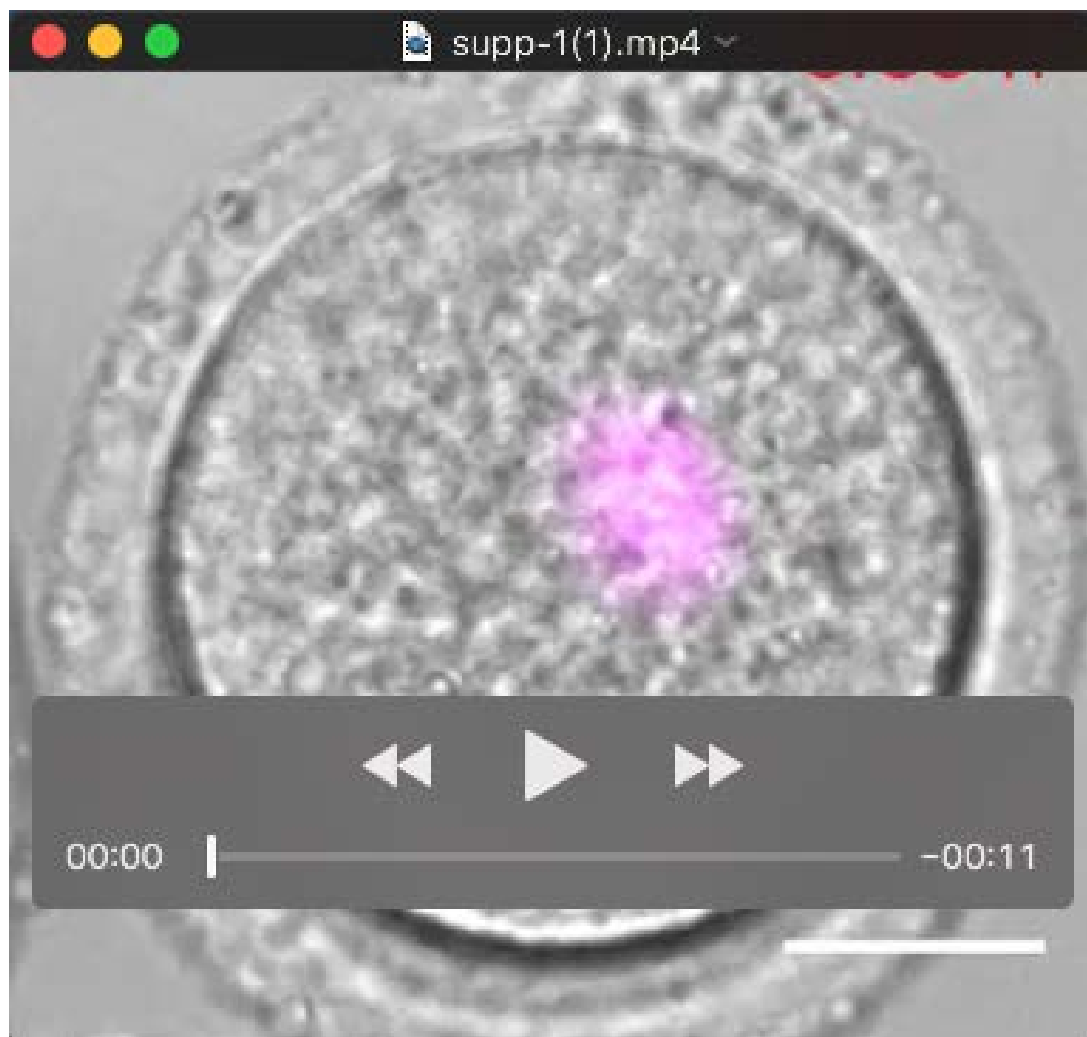


**Fig. S1.** Subcellular CAP1 localization at MI stage, determined by staining with an anti-CAP1 antibody. CAP1 showed enriched at the cortical actin cap region in MI oocytes. Blue, DNA; red, CAP1. Scale bars: 20  $\mu$ m (white).



**Movie 1.** Time-lapse movie of control oocyte injection with H2B-mCherry.

Movie 1 correspond to Figure 4A. Maximum intensity z-projection for H2B-mCherry (magenta), with the bright field being shown. The process of movies begins 5 h after the GV stage. The frame interval is 15min. Scale bars: 20  $\mu$ m



**Movie 2.** Time-lapse movie of CAP1 KD oocyte injection with H2B-mCherry. Movie 2 correspond to Figure 4A. Maximum intensity z-projection for H2B-mCherry (magenta), with the bright field being shown. The process of movies begins 5 h after the GV stage. The frame interval is 300s. Scale bars: 20  $\mu$ m



**Movie 3.** Time-lapse movie of CAP1 KD oocyte injection with H2B-mCherry. Movie 3 correspond to Figure 4A. Maximum intensity z-projection for H2B-mCherry (magenta), with the bright field being shown. The process of movies begins 5 h after the GV stage. The frame interval is 300s. Scale bars: 20  $\mu$ m



**Movie 4.** Time-lapse movie of control oocyte injection with H2B-mCherry. Movie 4 correspond to Figure 5H. Maximum intensity z-projection for H2B-mCherry (magenta), with the bright field being shown. The process of movies begins 2 h after the GV stage. The frame interval is 300s. Scale bars: 20  $\mu\text{m}$



**Movie 5.** Time-lapse movie of CAP1 overexpression oocyte injection with H2B-mCherry. Movie 5 correspond to Figure 5H. Maximum intensity z-projection for H2B-mCherry (magenta), with the bright field being shown. The process of movies begins 2 h after the GV stage. The frame interval is 300s. Scale bars: 20  $\mu$ m