

Supplementary information

Dripping of P granules.

Movie shows syncytial germ cell nuclei covered in P granules in the germ line of a GFP::PGL-1 worm. The germ line has been dissected and squashed. P granules appear to drip off of the nuclei, fuse, and round up. From Brangwynne, C. P. et al. Germline P granules are liquid droplets that localize by controlled dissolution/condensation. *Science* 324, 1729–1732 (2009). Reprinted with permission from AAAS. (MOV 259 kb)

Dynamics of FUS bodies.

Timelapse imaging of stress granules in a live HeLa cell expressing FUS-GFP using high-resolution lightsheet microscopy. Movie courtesy of H. O. Lee and M. Weigert, MPI-CBG, Dresden, Germany. (MOV 28339 kb)

Fusion of stress granules.

Expanded and rendered movie of the same cell in Supplemental movie 2, showing fusion of two stress granules visualized through FUS-GFP. Movie courtesy of H. O. Lee and M. Weigert, MPI-CBG, Dresden, Germany. (AVI 60 kb)

Formation and merging of pNephrin clusters.

Alexa 488-labeled His8-pNephrin was attached to a DOPC supported lipid bilayer doped (1%) with Ni²⁺-NTA lipids, and Nck and N-WASP were added. Movie shows TIRF images acquired every minute. Initial clusters are small and numerous, but merge over time to make larger structures. Reproduced from Banjade, S. & Rosen, M. K. Phase transitions of multivalent proteins can promote clustering of membrane receptors. *eLife* 3, e04123 (2014). (AVI 553 kb)

Supplementary information S5 (box)

How are condensed phases different from macromolecular complexes? (PDF 147 kb)

Supplementary information S6 (table)

Various biomolecular condensates and their functions (PDF 156 kb)