Supplementary data

S1 RT-PCR analysis in GV oocytes of genes associated with P-bodies

The cDNA products were ran on 2% agarose gel. The name and expected sizes (in parentheses) of the PCR products are as follows: *dcp1a* (228 bp), *rap55* (151 bp), *rck/p54* (161 bp), *cpeb-1* (233 bp), *eIF4-ET* (237 bp); and the housekeeping gene, *gapdh* (540bp). The primers used and Pubmed accession numbers are shown in the table below:

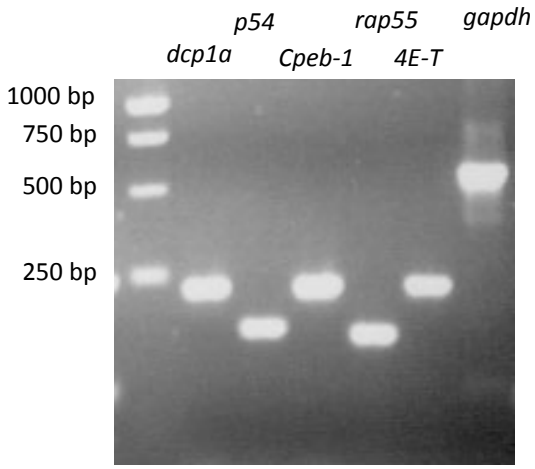
Gene	Pubmed Numbe	Forward	Reverse	products size
dcp1a	NM_133761	tccaaccctccagtctatgc	tctgctgtcccaacagtgag	228 bp
p54/rck	NM_007841	caaaaagtgcactgcctcaa	cgatgttcctgcctcatttt	151 bp
Cpeb-1	NM_007755	tggctgacagcaactttgtc	agcggtgactgctttcagat	161 bp
rap55	BC031521	tacatcggcagcaagatcag	gcggtattggacgatctgtt	233 bp
4-ET	BC033410	tcccagaccagccgttatac	agcttggagcaaacttggaa	237 bp
Gapdh	XM_001473623.1	gacccctttcattgacctcac	gatgaccttgcccacagcctt	540 bp

S2 Large EGFP-hDcp1a granules are not MTOCs.

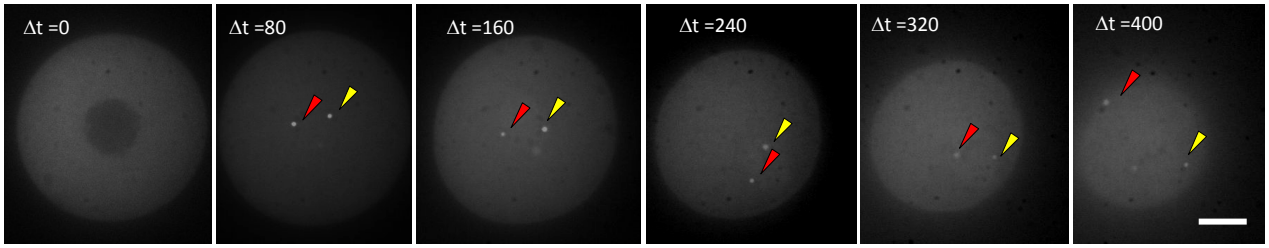
A) Time-lapse sequence, taken by confocal microscopy, of the same GV oocyte injected with EGFP-hDcp1a undergoing maturation; at t= 0, no foci are visible in the GV oocyte; at t= 80mins, two large foci appear near to the spindle (shown with red and yellow arrows); between t= 160 and 320mins, the foci tend to follow the spindle; at t= 400, the foci are very motile, on foci (red arrow) has migrated to the cortex. **B**) Refer to **movie 1.** A time-lapse movie based on the 3-D reconstruction for the confocal stacks of the GV oocyte in (**A**); pictures were taken over 16 hours (Δt = 15 mins). The film reveals the high mobility of the foci in the whole 3-D oocyte; the outline of the oocyte is depicted in blue and the EGFP-hDcp1a foci in red. **C-G**) Immunocytochemistry for β-tubulin and γ-tubulin on EGFP-hDcp1a injected oocytes. **C**) EGFP-hDcp1a expression alone; **D**) β-tubulin immunofluorescence alone, the micro-tubule network can be seen. **E**) γ-tubulin immunofluorescence alone, staining is shown with an arrow. **G**) overlay of C-E images showing that the EGFP-hDcp1a foci do not co-localise with γ-tubulin nor with β-tubulin. Scale bars are 50 μm.

S3 De-phosphorylation of phosphorylated MAP kinase by Potato acid phosphastase activity

A) Western blot probing for phospho-MAP kinase protein on extracts of AML-12 cells treated with 10^{-7} M insulin for 5 minutes and either treated (+phos) or non-treated (Δphos) with potato acid phosphatase. **B)** Western blot probing for β-tubulin protein on the same cell extracts as in (A).

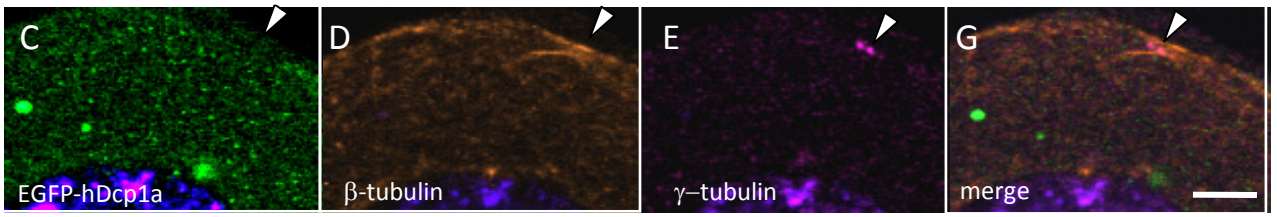

dcp1a
p54
Cpeb-1
rap55
4E-T
gapdh
1000 bp
750 bp
500 bp
250 bp

A



B

Time-lapse Movie 1



A.