Kress et al., http://www.jcb.org/cgi/content/full/jcb.201209107/DC1

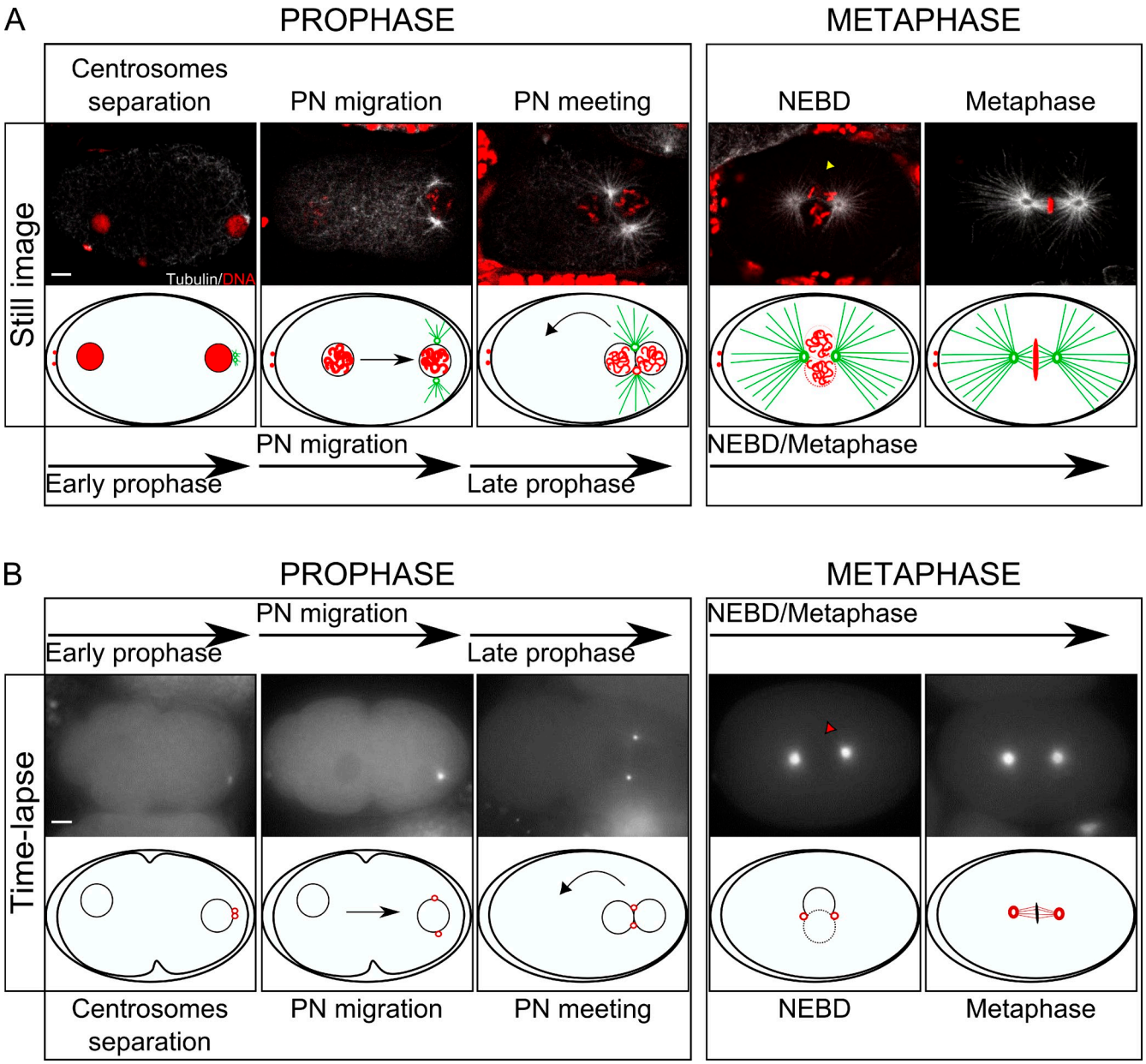


Figure S1. **Illustration of the cell cycle stages analyzed.** (A) Confocal images and schemes representing the different cell cycle times analyzed in fixed embryos. The stages are determined by observing the DNA and the position of the pronuclei and centrosomes. The prophase is split in three stages: (1) early prophase: when centrosomes are not fully separated; (2) PN migration: from the time when centrosomes are at the equator of the male pronucleus until the two pronuclei meet; and (3) late prophase: from pronuclear meeting to NEBD. NEBD/metaphase: from NEBD to metaphase plate. This last stage is referred to as "metaphase" in the figures. NEBD is made visible by the entrance of microtubules in the nucleus zone (yellow arrowhead). (B) Schemes and still images from time-lapse movies representing the different cell cycle times analyzed. The stages are determined by observing the position of the centrosomes and pronuclei. The prophase is split in three stages: (1) early prophase/centrosome separation: from appearance of the two centrosomes to the time when they are at the equator of male pronucleus; (2) PN migration: from the end of early prophase to pronuclear meeting time; and (3) late prophase: from pronuclear meeting to NEBD. NEBD/metaphase: from NEBD to metaphase plate. This last stage is referred to as "metaphase" in the figures. NEBD is made visible by the entrance of microtubules in the nucleus zone (red arrowhead), and metaphase finishes when the spindle elongates.

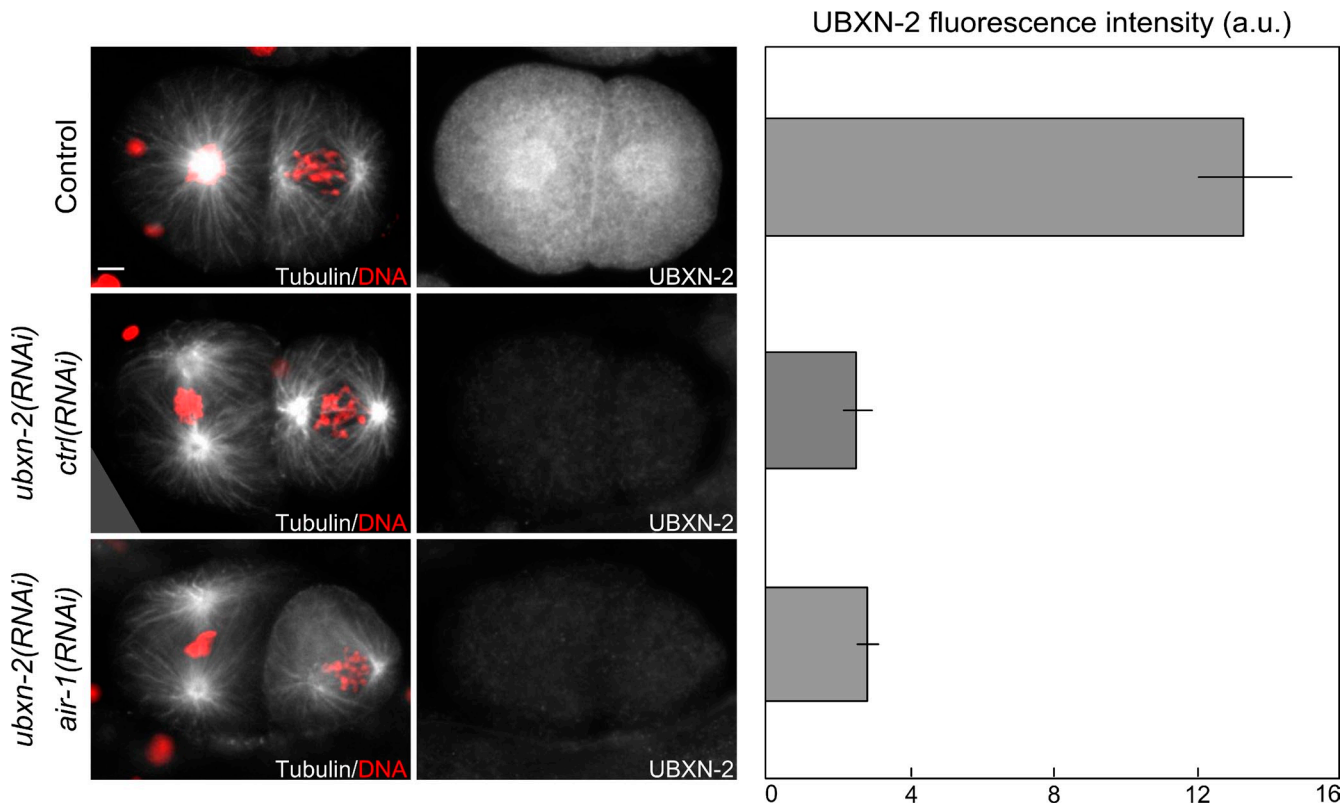


Figure S2. **UBXN-2 depletion in *ubxn-2(RNAi)* or *ubxn-2(RNAi)/air-1(RNAi)* embryos.** (A) Wide-field fluorescence image of embryos of the indicated genotype immunostained for α-tubulin, DNA, and UBXN-2, and the mean cytoplasmic fluorescence intensity of UBXN-2 ± SEM. *n* > 10 embryos per conditions.

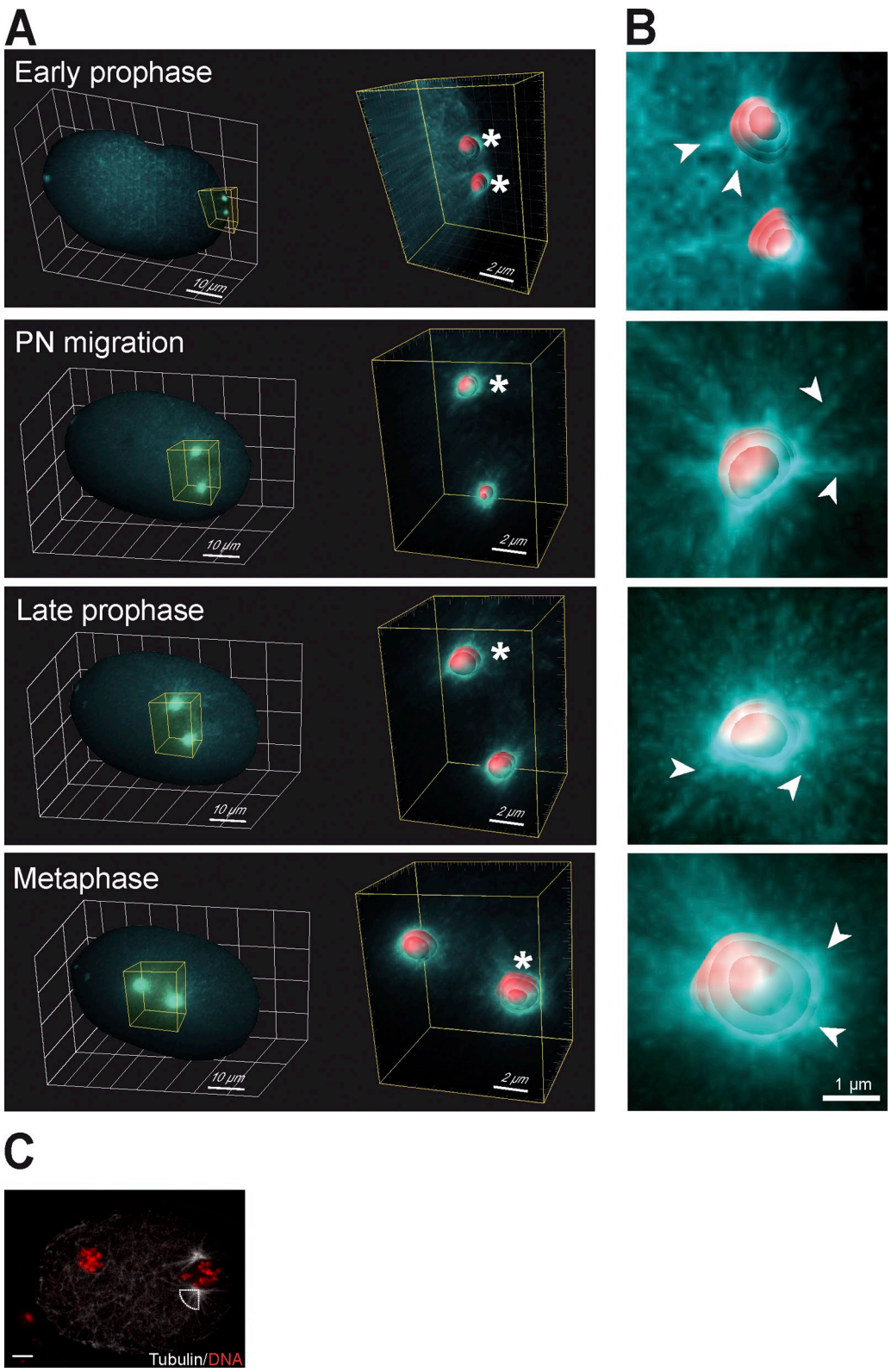


Figure S3. **Measurement of centrosome volume and microtubule length.** (A) Left: snapshots of a 3D embryo expressing YFP::α-tubulin rebuilt with Imaris X64 v.7.3.1 software (Bitplane) from a series of Z-stacks (10 slices) acquired over time with a spinning disk confocal microscope. Right: close-up of the yellow areas shown on the left. The volume of centrosomes corresponds to the red surfaces. This step of image processing was automatically performed and based on an intensity thresholding (see Materials and methods). (B) Views at higher magnification of the centrosome (red) indicated with asterisks in A. Arrows indicate that astral microtubules (in cyan) were not included in the measurement of centrosome volumes. (C) Astral microtubule number was estimated by counting the number of microtubules longer than the drawn quadrant (radius = 3.75 µm).

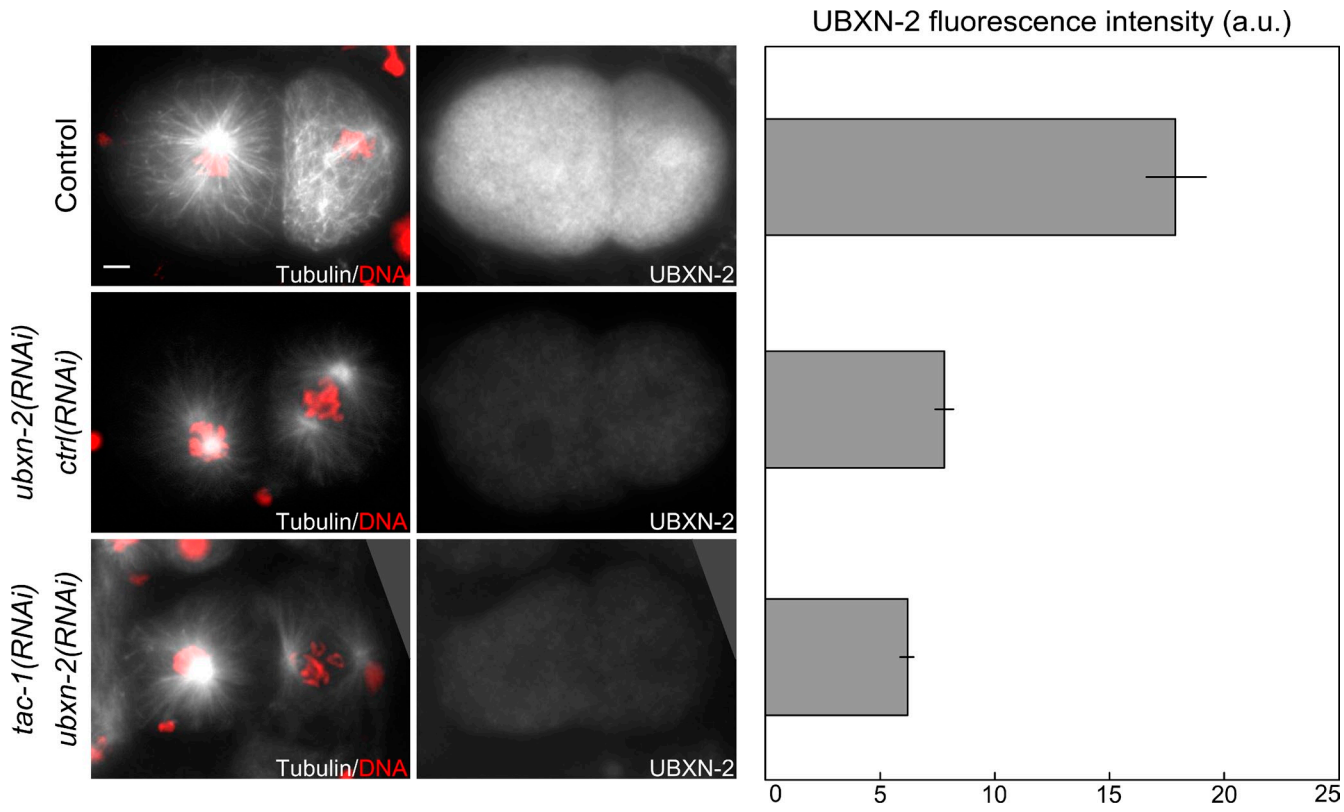


Figure S4. **UBXN-2 depletion in *ubxn-2(RNAi)* or *ubxn-2(RNAi)/tac-1(RNAi)* embryos.** Wide-field fluorescence images of embryos of the indicated genotype immunostained for α-tubulin, DNA, and UBXN-2, and the mean cytoplasmic fluorescence intensity of UBXN-2 ± SEM. *n* > 10 embryos per conditions.

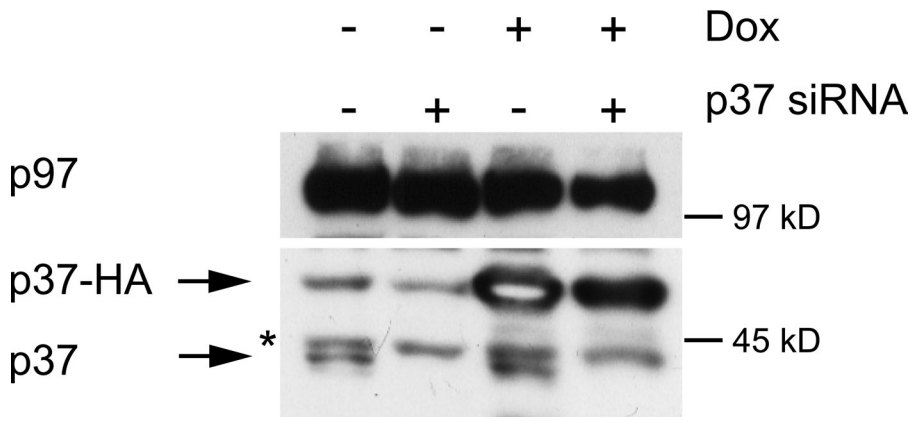
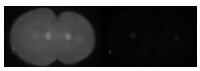
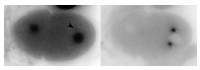


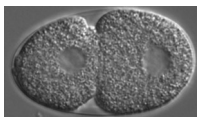
Figure S5. **Western blot of p37 restoration experiment.** HeLa Kyoto Flip-In cells doxycycline-inducibly expressing siRNA-resistant mouse p37 fused to a 3×HA-strep tag were depleted or not for p37 and doxycycline treated or not.



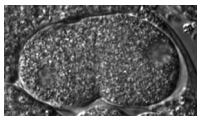
Video 1. **Localization of GFP::UBXN-2^{R} during the first division of the *C. elegans* embryo.** An embryo expressing GFP::UBXN-2^{R} (left) and mCherry::α-tubulin (right) was imaged during the first division (from NEBD to telophase). Images were acquired every 10 s with an epifluorescence microscope (DM6000; Leica).



Video 2. **Localization of GFP::UBXN-2^{R} during the first division of the *C. elegans* embryo.** An embryo expressing GFP::UBXN-2^{R} (left) and mCherry::α-tubulin (right) was imaged during the first division (pronuclear migration, meeting, and centration stages). Images were acquired every 15 s with an epifluorescence microscope (AxioImager.M2; Carl Zeiss). The black arrowhead indicates the centrosomal region.



Video 3. **The first division of a *C. elegans* embryo.** The first division of a control one-cell embryo was analyzed by time-lapse differential interference contrast microscopy using a Leica DM6000 microscope. Images were acquired every 10 s.



Video 4. **The first division of a *ubxn-2(RNAi) C. elegans* embryo.** The first division of a UBXN-2–depleted one-cell embryo was analyzed by time-lapse differential interference contrast microscopy using a Leica DM6000 microscope. Images were acquired every 10 s.