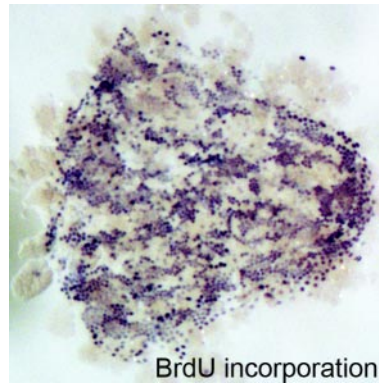
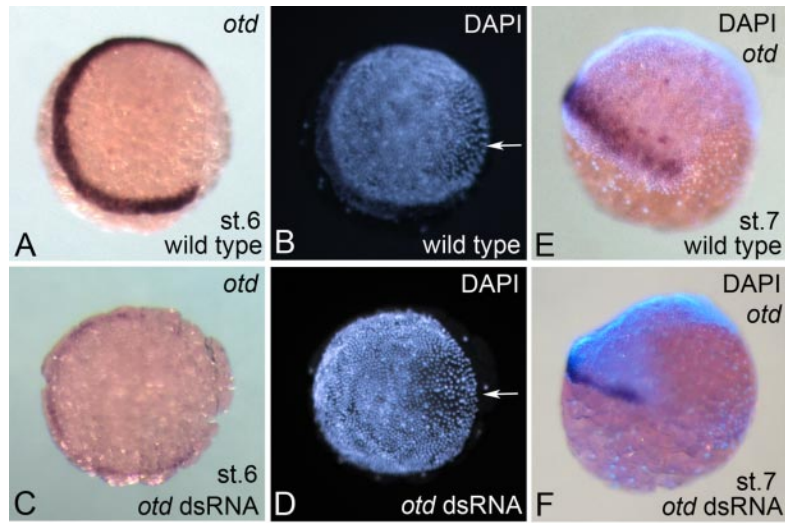


# Supporting Information

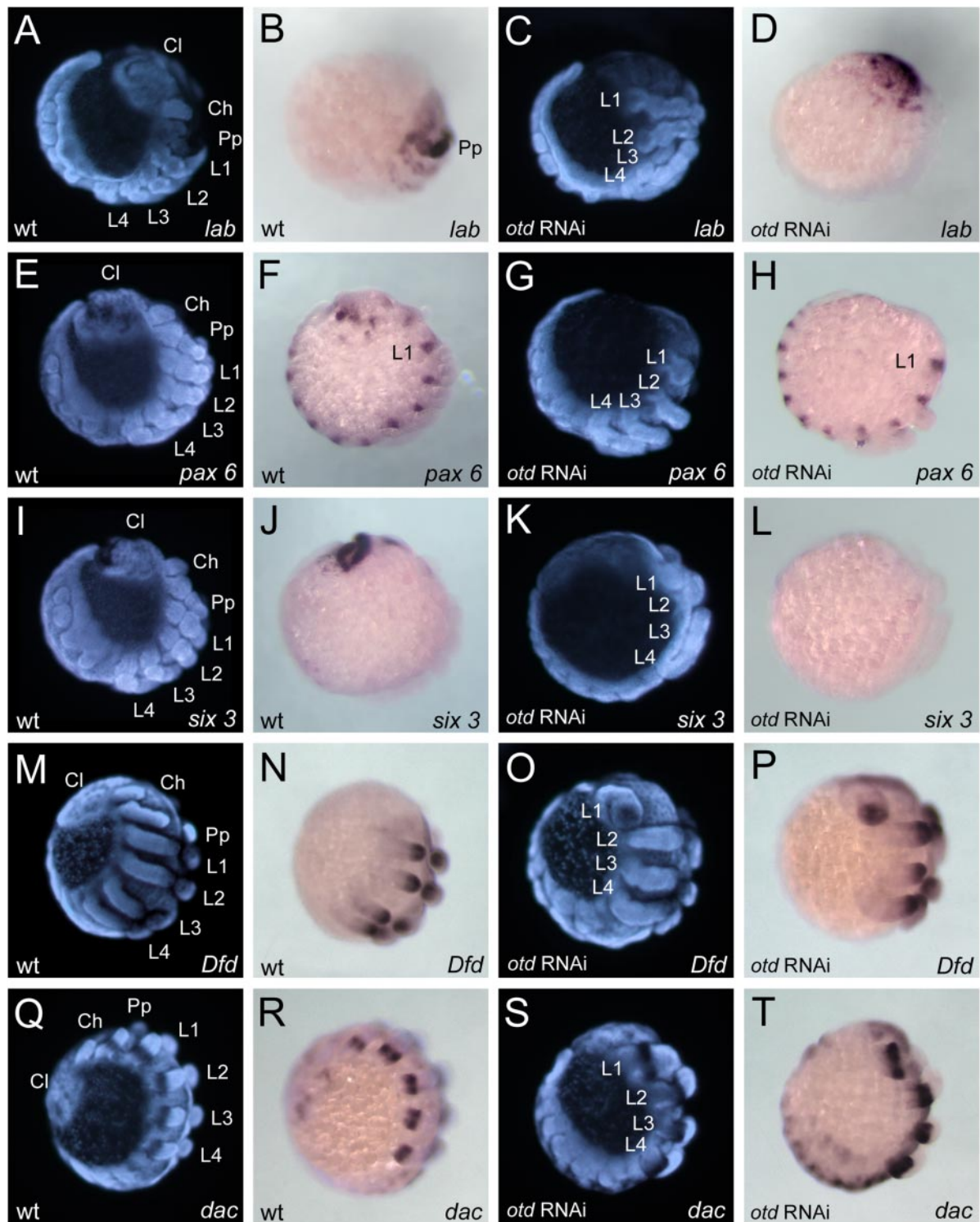
Pechmann *et al.* 10.1073/pnas.0811150106



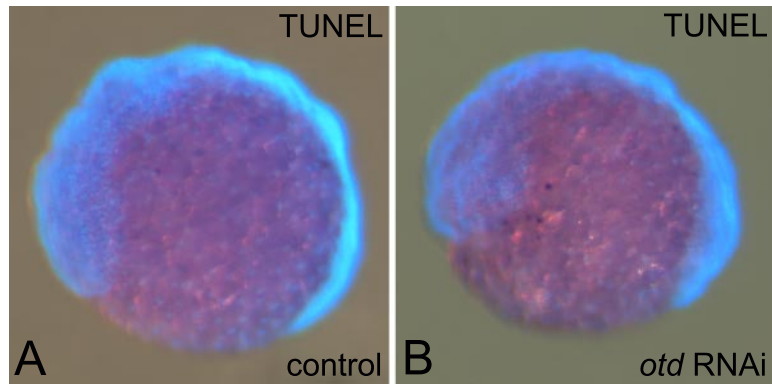
**Fig. S1.** Incorporation of BrdU in stage 6 embryo of *Achaearanea tepidariorum*. More or less uniform distribution of dividing cells; no specific areas of enhanced cell division are observed in the anterior embryo. Embryos were injected with BrdU and then grown for 45–60 min and fixed. Anterior to the *left*.



**Fig. S2.** *At-otd-1* expression is almost completely gone after RNAi for *otd-1*. In wild-type and control embryos *At-otd-1* is strongly expressed in a ring at the anterior ridge of stage 6 embryos (A and B). After pRNAi, only very low levels of *At-otd-1* transcripts can be detected (C and D). Arrowhead points to position where the cumulus has moved and the embryo is opening up. Embryos in B and D are epifluorescence pictures of embryos in A and C, respectively. At stage 7, the *At-otd-1* expression moves toward posterior in control embryos (E), but the weak *At-otd-1* expression does not move from the anterior end of the germ band after RNAi (F). Please note that the embryo in F has stained longer than the one in E to detect the low levels of transcripts.



**Fig. S3.** Expression of a number of marker genes in wild-type and *otd<sup>RNAi</sup>* embryos. No structures anterior to the pedipalps are specified in *otd<sup>RNAi</sup>* embryos. Two *Left* columns: wild-type embryos, DAPI, and bright field image of same embryo. Two *Right* columns: *otd<sup>RNAi</sup>* embryos, DAPI, and bright field image of same embryo. (A and B) *labial* is strongly expressed in the pedipalpal segment and weakly in L1 and L2; in C and D *otd<sup>RNAi</sup>* embryos, *lab* is in all tissue anterior to L1. (E and F) *Pax6* is expressed in several spots in the head region, and in paired segmentally iterated spots in the neuroectoderm in each segment; in G and H *otd<sup>RNAi</sup>* embryos, there is no head expression of *Pax6* but only the segmentally iterated expression in the neuroectoderm. (I and J) *Six3* is expressed in an anterior head domain. (K and L) No *Six3* expression in *otd<sup>RNAi</sup>* embryos. (M–P) *Dfd* is expressed in the 4 segments that bear walking legs. (Q–T) *dac* is expressed in the medial portion of the appendages.



**Fig. S4.** No elevated cell death in *otd*<sup>RNAi</sup> embryos. Embryos were analyzed for apoptosis using TUNEL. No apoptotic cells were detected at the anterior of either control or *otd*<sup>RNAi</sup> embryos.