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SUPPLEMENTARY MATERIAL

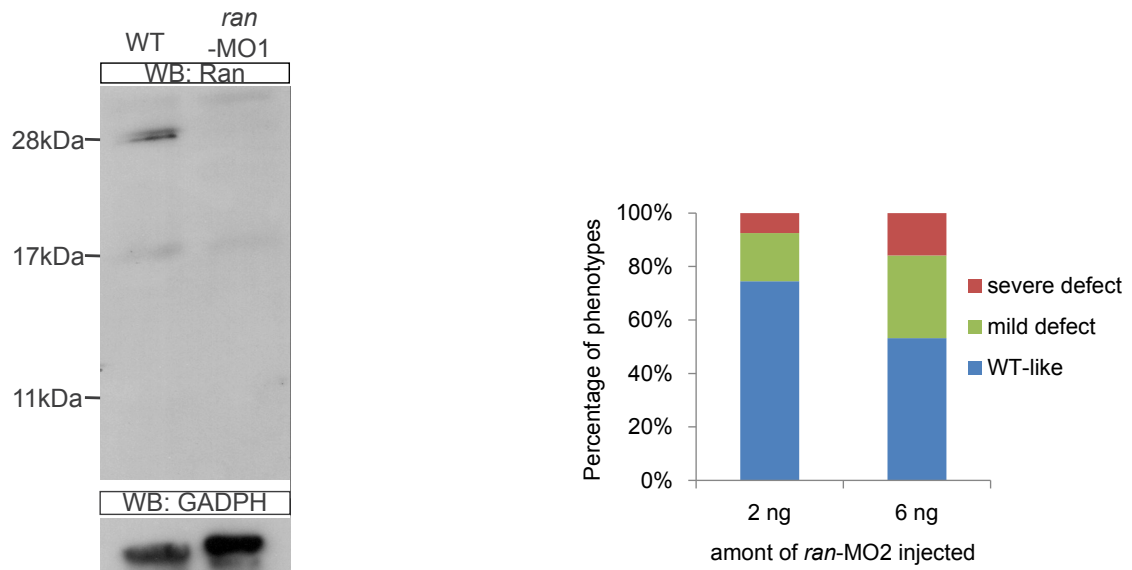
corresponding to:

**Ras-Related Nuclear Protein is required for late
developmental stages of retinal cells in zebrafish eyes**

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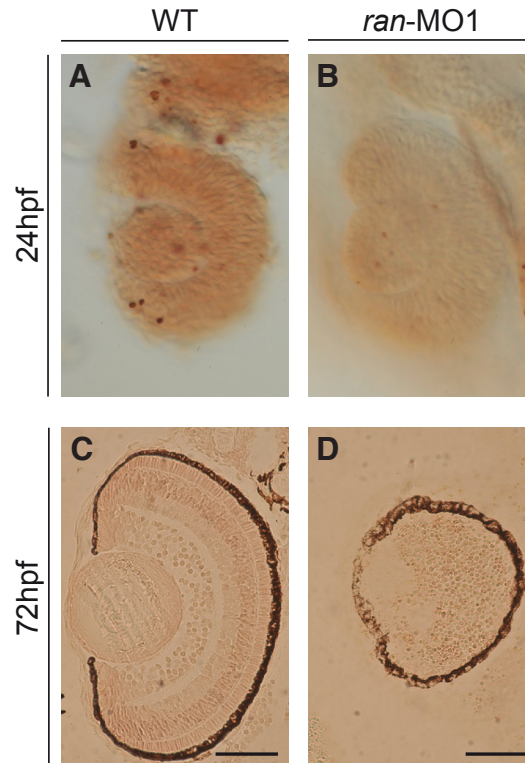
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Suppl. Fig. S1 (Left). The protein level of endogenous Ran was decreased in the zebrafish embryos injected with *ran-MO1*. Twenty micrograms of the whole embryo extract lysates from WT embryos or from *ran-MO1*-injected embryos was analyzed by Western blot using Ran antibody (Abcam). Specific Ran signal near 20 kDa was detected in the WT lane while in the *ran-MO1* lane the Ran signal was nearly undetected. GADPH was used as an internal control.

Suppl. Fig. S2 (Right). The microphthalmos was also observed in the *ran*-deficient zebrafish embryos caused by injection of *ran-MO2*. The defect in the *ran-MO2*-injected embryos was the same as *ran-MO1*-injected embryos. Like *ran-MO1* injection, the degree of defective phenotype caused by *ran-MO2* was dosage dependent. The number of embryos treated was 151 and 139 for 2 ng and 6 ng injection groups, respectively.



Suppl. Fig. S3. *Ran*-deficient embryos did not exhibit a significant change in the apoptosis of retinal cells. (A,B) Lateral views of 24 hpf eyes. (C,D) coronal sections of 72 hpf eyes. The apoptosis signals in the embryonic ocular section were detected by TUNEL assay. A small amount of apoptosis signals was detected in both wild-type embryos and *ran*-deficient embryos at 24 hpf, in which there was not much differences. Additionally, few apoptosis signals were also detected in both wild-type embryos and *ran*-morphants at 72 hpf, indicating that apoptosis would not be caused by the loss of Ran at both early and late developmental stages of retinal cells. Scale bars, 50 μ m.