



**Supplementary information, Fig. S6 The chimeric proteins containing IDRs from other RBPs can also fulfill phase separation of Ddx3xb. a**, Schematic diagram showing chimeric forms of zebrafish Ddx3xb. **b**, Western blot (left) and statistical (right) analyses showing protein level of different chimeric versions of FLAG-GFP-tagged Ddx3xb in zebrafish embryos.  $n = 3$  biological replicates, error bars, mean  $\pm$  SD,  $P$  values were calculated by the two-tailed Student's  $t$ -test. **c**, Western blot (left) and statistical (right) analyses showing protein level of different chimeric versions of FLAG-GFP-tagged Ddx3xb in HEK293 cells.  $n = 3$  biological replicates, error bars,

mean  $\pm$  SD, *P* values were calculated by the two-tailed Student's *t*-test. **d**, Expression pattern of N-terminal GFP-tagged chimeric Ddx3xb proteins Ddx3xb<sub>FL</sub>, Ddx3xb <sub>$\Delta$ N</sub>, Ddx3xb <sub>$\Delta$ N</sub>-FUS<sub>IDR</sub> and Ddx3xb <sub>$\Delta$ N</sub>-hnRNPA1<sub>IDR</sub> in HEK293 cells. Scale bars, 10  $\mu$ m. **e**, Western blot (left) and statistical (right) analyses showing protein level of different chimeric versions of FLAG-GFP-tagged Ddx3xb in HEK293 cells. *n* = 3 biological replicates, error bars, mean  $\pm$  SD, *P* values were calculated by the two-tailed Student's *t*-test. **f**, Expression pattern of N-terminal GFP-tagged chimeric Ddx3xb proteins Ddx3xb<sub>FL</sub>, Ddx3xb <sub>$\Delta$ N</sub>, Ddx3xb <sub>$\Delta$ N</sub>-YAP<sub>IDR</sub> in HEK293 cells. Scale bars, 10  $\mu$ m.