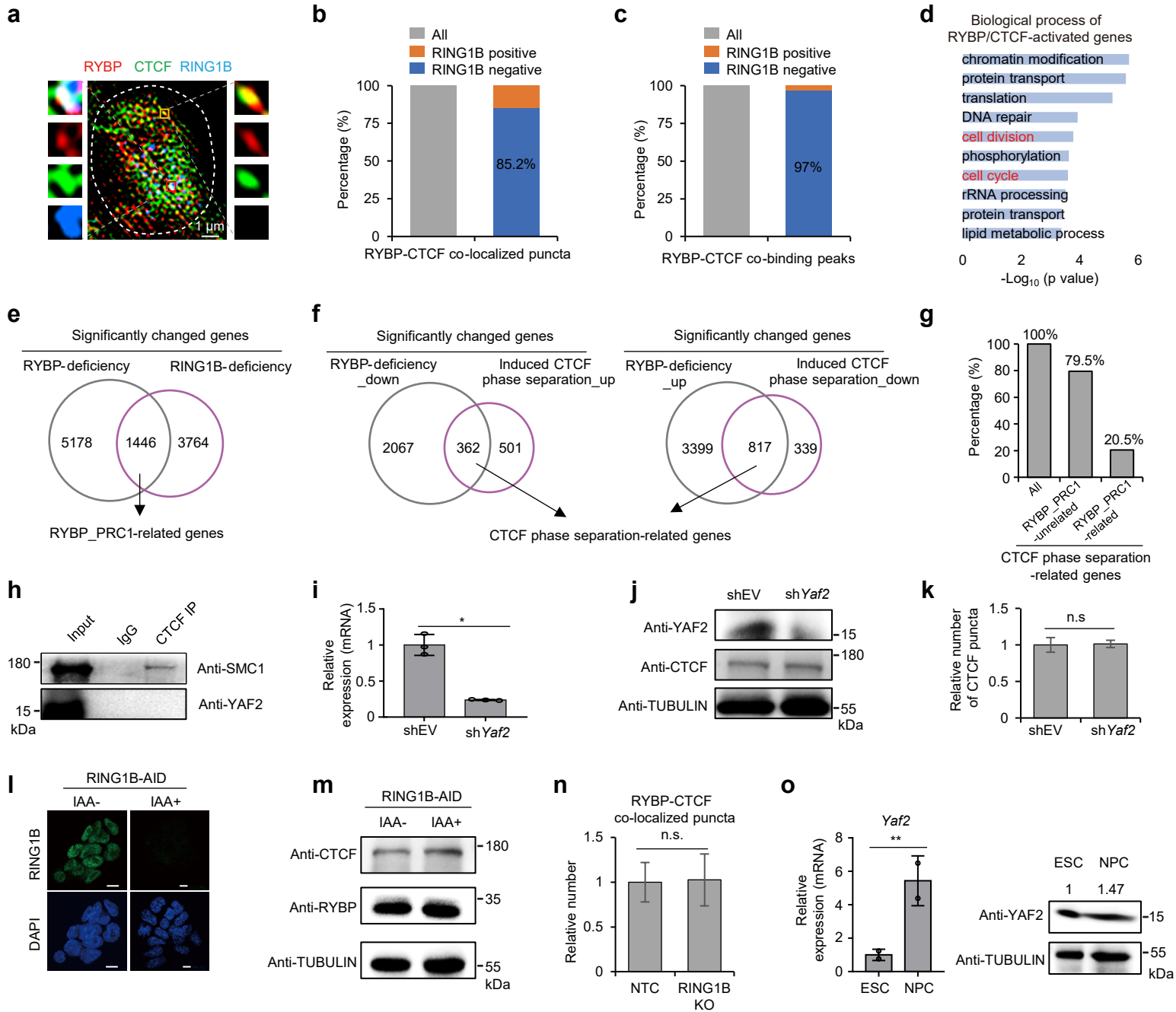


Supplementary information, Fig.S11



Supplementary information, Fig.S11 RYBP functions in CTCF phase separation are primarily different from that in RYBP-PRC1. **a** Representative immunofluorescence images showing the co-localization across RYBP, CTCF and RING1B. **b** Percentage of RYBP-CTCF-RING1B co-localized puncta in RYBP-CTCF co-localized puncta. **c** Percentage of RYBP-CTCF-RING1B co-binding peaks in RYBP-CTCF co-binding peaks. **d** GO analysis of genes targeted by RYBP-CTCF co-binding peaks where lack RING1B. **e, f** Definition of RYBP_PRC1-related genes (**e**) and CTCF phase separation-related genes (**f**). **g** Percentage of RYBP_PRC1-related genes in CTCF phase separation-related genes. **h** Co-IP experiment showing the interaction between CTCF and SMC1 (positive control), between CTCF and YAF2. **i, j** RT-qPCR (**i**) and WB (**j**) showing the knockdown efficiency of *Yaf2*. Welch's *t*-test; $n = 3$, $P = 0.016$; **k** Relative number of highly concentrated CTCF puncta after YAF2-deficiency. Welch's *t*-test; shEV, $n = 35$ cells; sh*Yaf2*, $n = 79$ cells; $P = 0.9093$; **l** Representative immunofluorescence images showing the degradation of RING1B in RING1B-AID ESCs. All the scale bars denote 10 μm . **m** WB showing the expression of CTCF and RYBP after RING1B degradation. **n** Relative number of RYBP_CTCF co-localized puncta after RING1B-deficiency. Welch's *t*-test; NTC, $n = 159$ cells; RINGB KO, $n = 108$ cells; $P = 0.9459$; **o** mRNA (left, GSE96107) and protein (right) expression in ESCs and NPCs. Welch's *t*-test; $n = 2$, $P = 0.0015$.