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**Supplementary information**

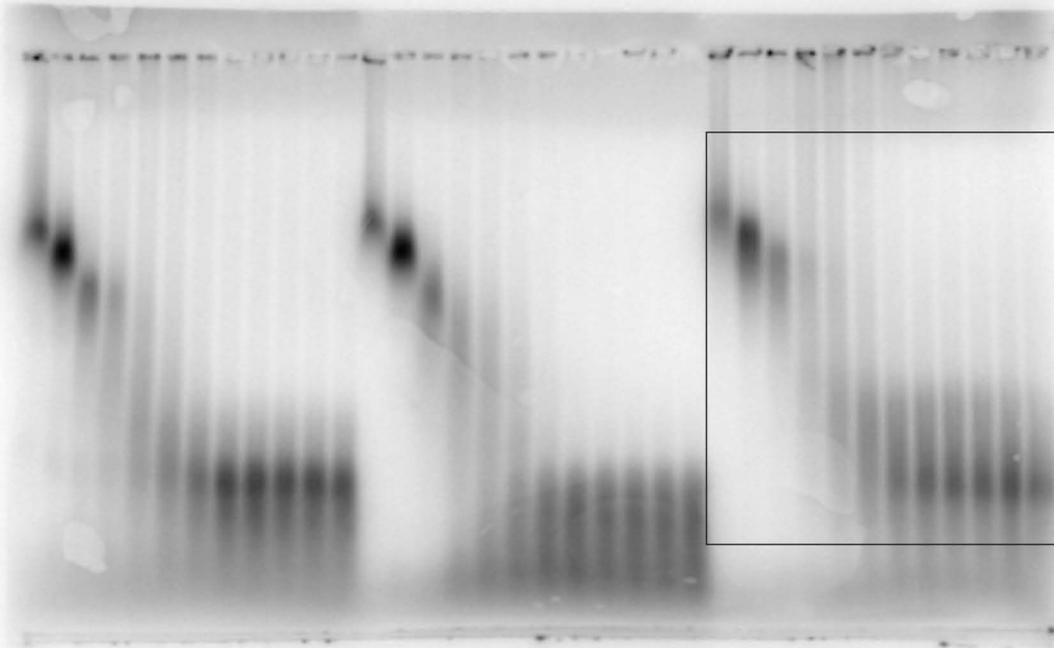
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**A protein assembly mediates *Xist* localization and gene silencing**

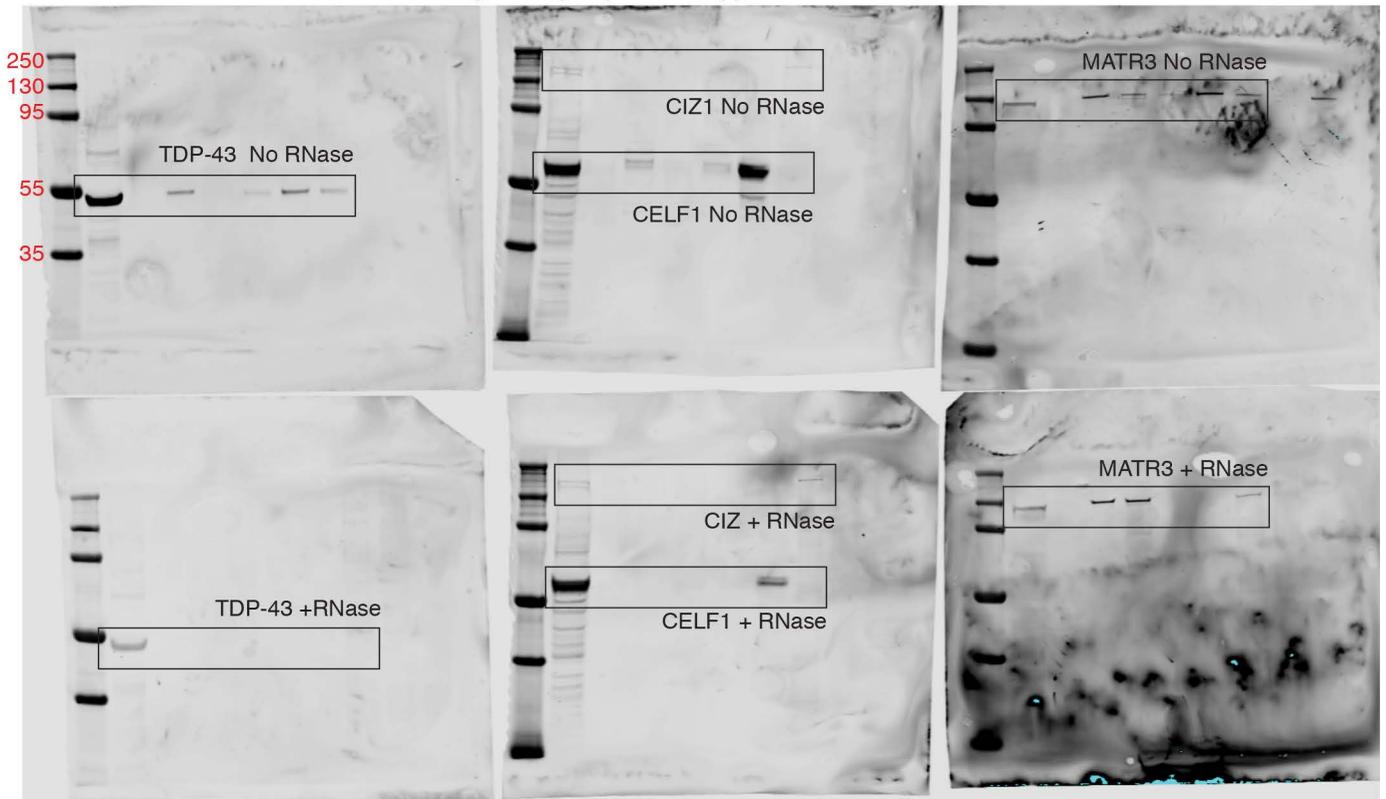
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In the format provided by the authors and unedited

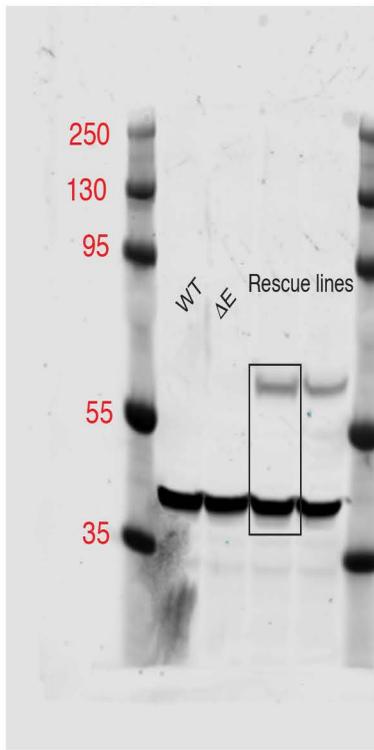
a, EMSA Radiograph (Extended Data Fig. 3d)



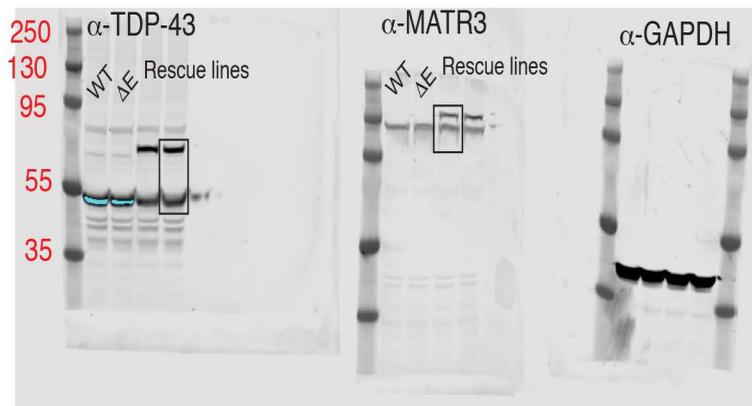
b, Immunoblots, Fig. 3f and Extended Data Fig. 9g (All immunoblots use the ThermoFisher PageRuler Marker Cat #26619 - blue bands show up in our fluorescent scans @700 and 800nm using the Odyssey Licor setup)



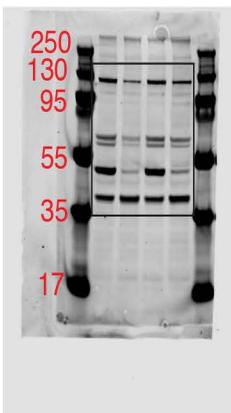
k, Immunoblot, Extended Data Fig 10i. Loading control (GAPDH) was run on same gel.



l, Immunoblot, Extended Data Fig. 11g. Loading control (endogenous protein) was run on same gel. GAPDH was run on separate gel.

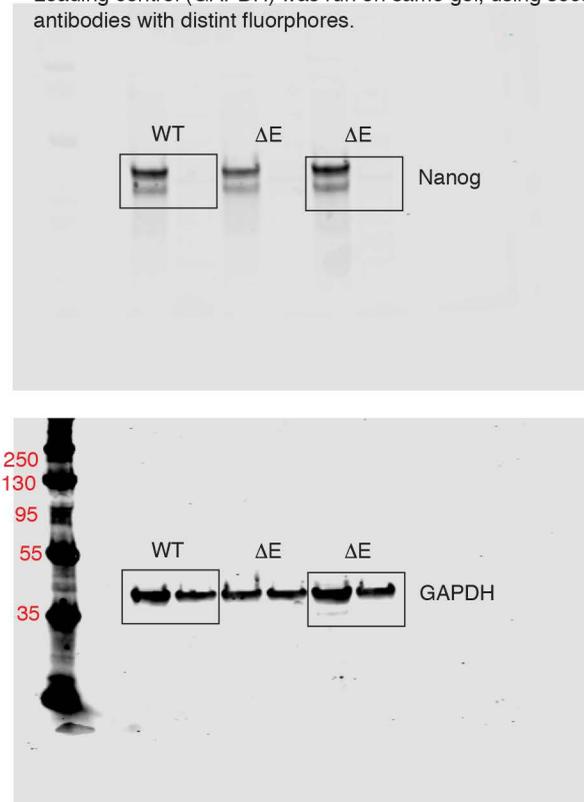


m, Immunoblot, Extended Data Fig. 11m. Loading control (GAPDH) was run on same gel.

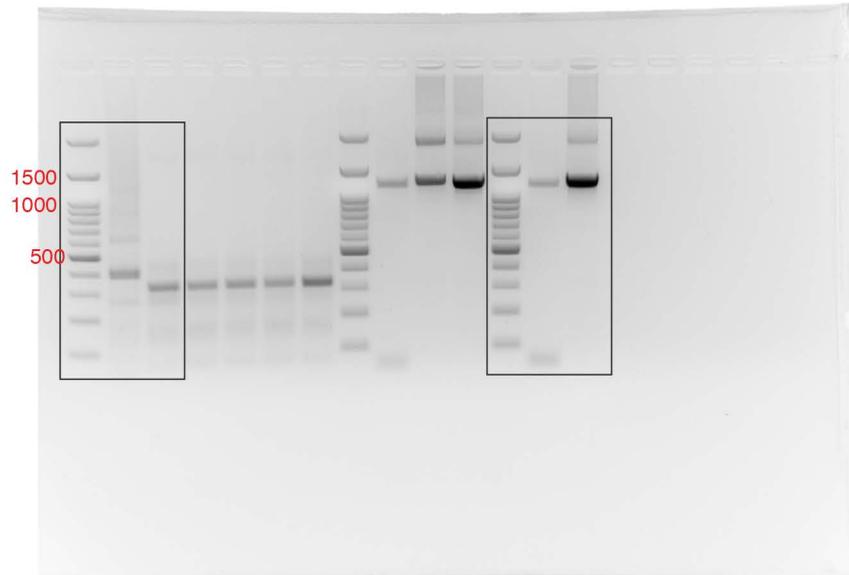


**g**, Immunoblots, Extended Data Fig. 5g

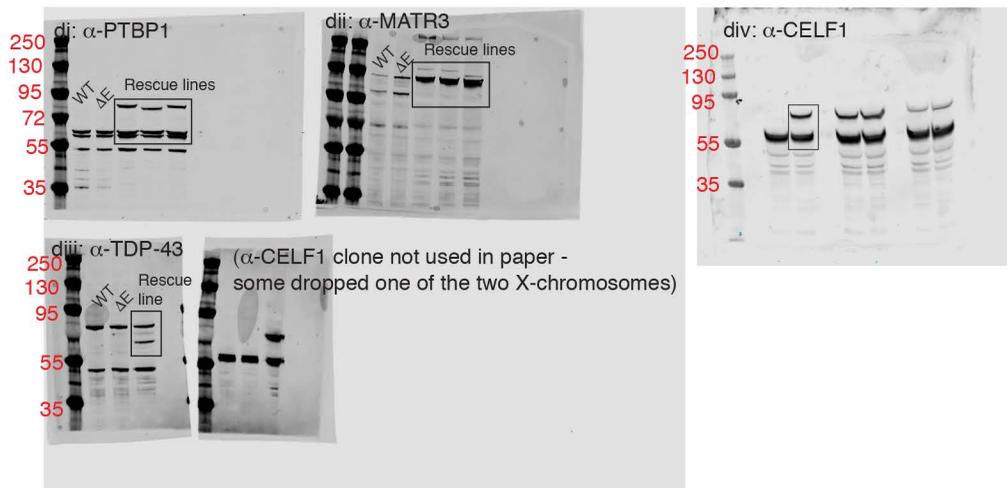
Loading control (GAPDH) was run on same gel, using secondary antibodies with distinct fluorophores.



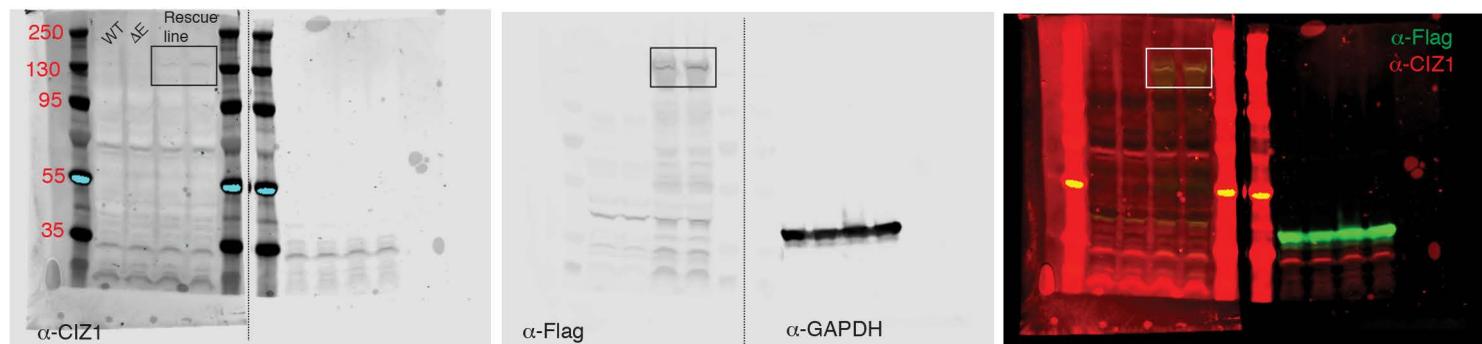
**h**, EtBr-stained agarose Gel, Extended Data Fig. 5i and j



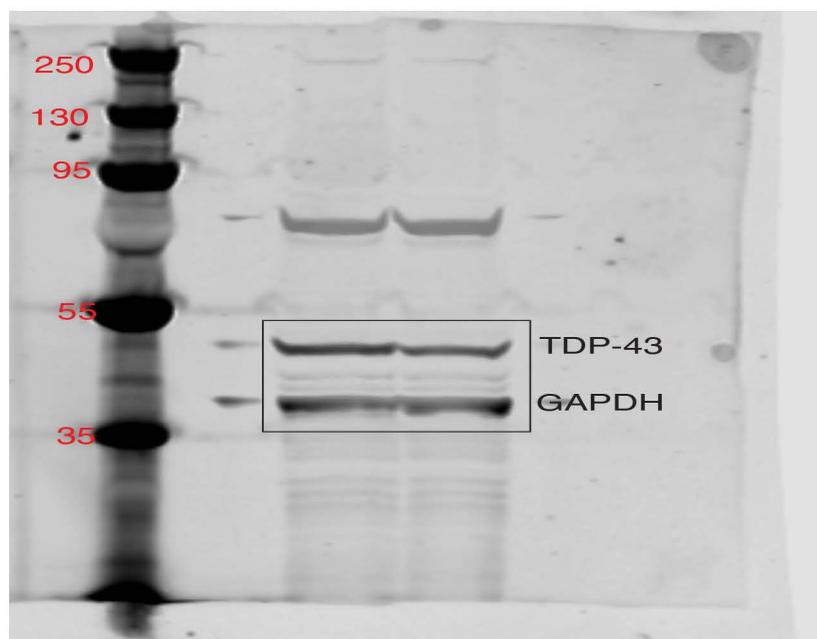
**i**, Immunoblot, Extended Data Fig. 9d. Loading control (endogenous protein, run on same gel)



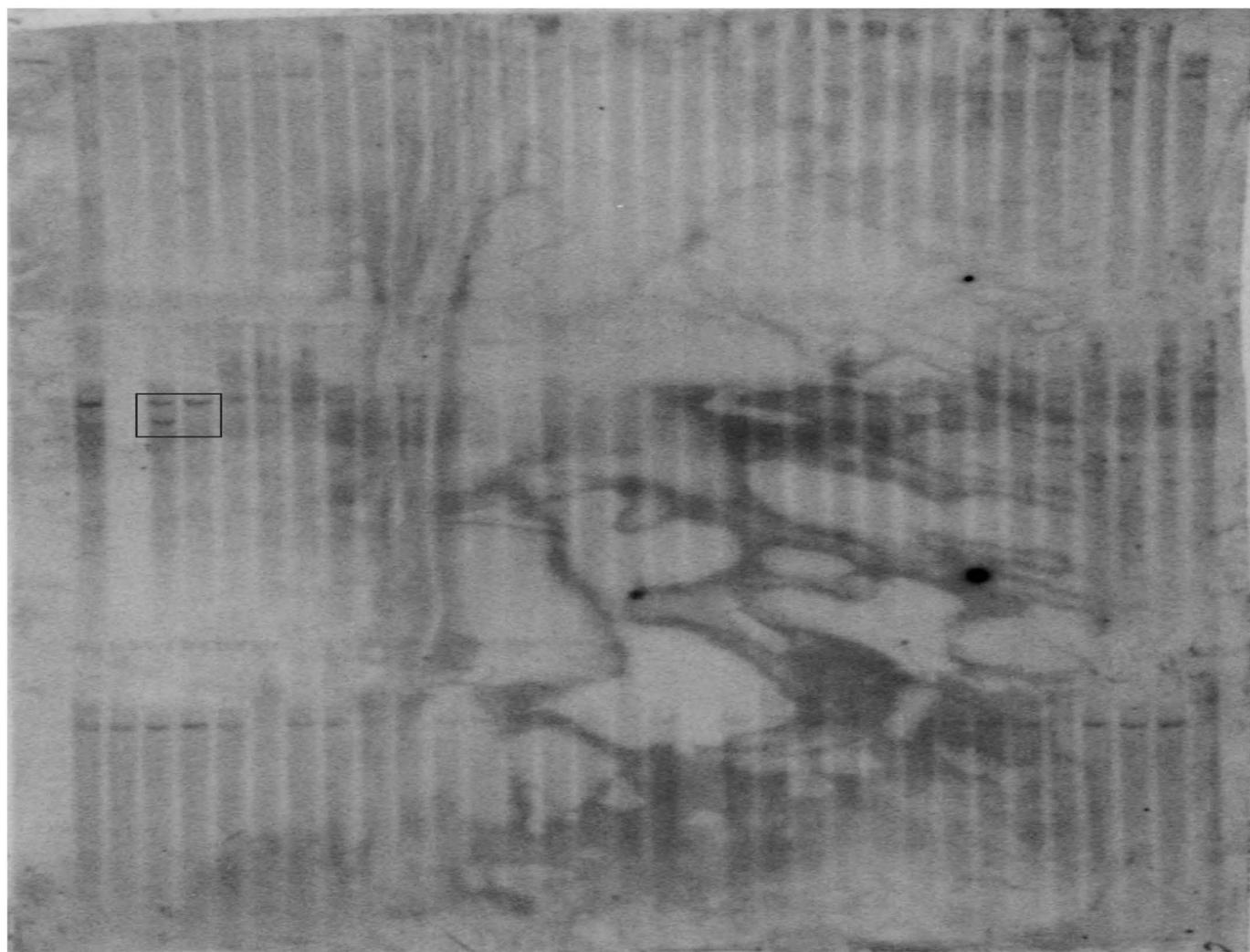
**j**, Immunoblot, Extended Data Fig. 10b. Loading control (GAPDH) was run on same gel but in separate lanes.



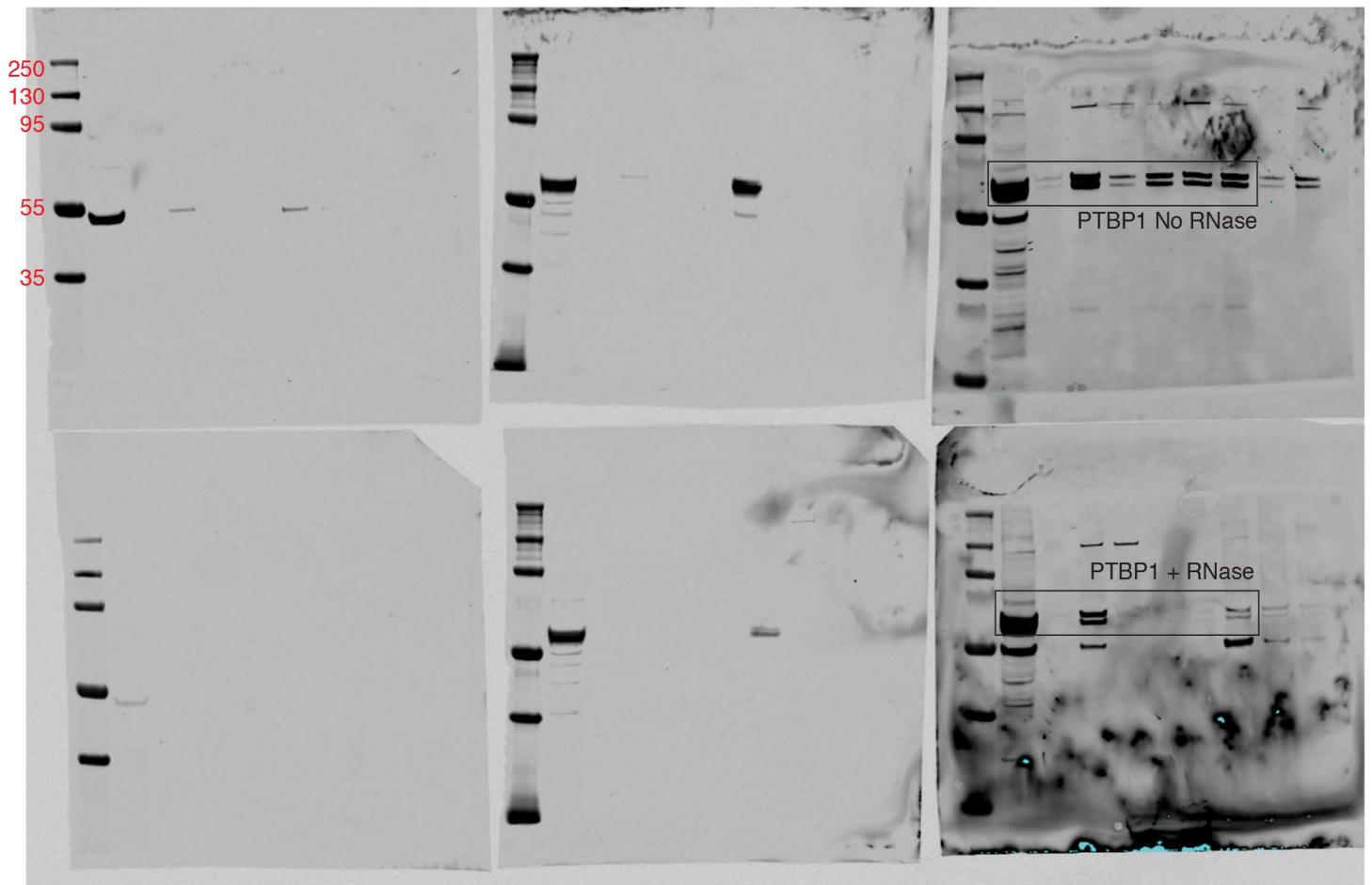
e, Immunoblots, Extended Data Fig. 1bii. Loading control (GAPDH) was run on same gel.



f, Southern Blot Radiograph, Extended Data Fig. 5c



c, Immunoblots, Fig. 3f and Extended Data Fig. 9g



Membranes same as in (b), PTP1 antibody (goat) was used on same blot as MATR3(rabbit) but secondary antibodies had different fluorophores attached so here we show the images with and without PTBP1 as scanned at a lower exposure to get PTBP1 signal that wasn't overexposed. These gels are of immunoprecipitations, thus did not have loading controls.

d, Immunoblots, Extended Data Fig. 1bi. Loading control (GAPDH) was run on same gel.

