## **Supplemental Figure 1**



**Supplemental Figure 1.** Identification of TβRI-associated proteins in different cellular contexts. **A:** A summary of the numbers of TβRI-associated proteins identified in MCF10A, MCF10A/HER2, and MDA-MB-231 cells. **B:** Potential functions of identified TβRI-associated proteins as analyzed by Ingenuity Pathways Analysis (IPA). **C:** Proteins involved in the IPA-determined top functional network of RNA post-transcriptional modification. Proteins in grey indicate those identified in transformed cells by mass spectrometry.



**Supplemental Figure 2.** Nuclear transport of T $\beta$ RI mutants in MCF10A/HER2 cells. **A:** IFA images of TGF- $\beta$ -treated MCF10A/HER2 cells expressing the GFP-fused T $\beta$ RI constructs. **B:** MCF10A/HER2 cells transfected with HA-tagged wild-type T $\beta$ RI, L45(3A) mutant or D266A mutant were treated with TGF- $\beta$  for 0.5 h or left untreated, and the HA-tagged T $\beta$ RI levels were analyzed in the nuclear fraction and whole cell lysates by Western blot.

## **Supplemental Figure 3**



**Supplemental Figure 3.** Chromosomal distribution of identified TβRI-binding RNA sequences.



**Supplemental Figure 4.** Time course of the TGF- $\beta$ -induced splicing of EGFR isoform c. Quantitative RT-PCR of various EGFR-derived RNAs was performed using total RNA isolated from MCF10A/HER2 cells that were treated with TGF- $\beta$  for 0, 1 or 4 h. Data was normalized to the level of GAPDH, and then compared to that in untreated cells (the first set of bars). Each data point represents the mean ± S.D. of 3 wells.