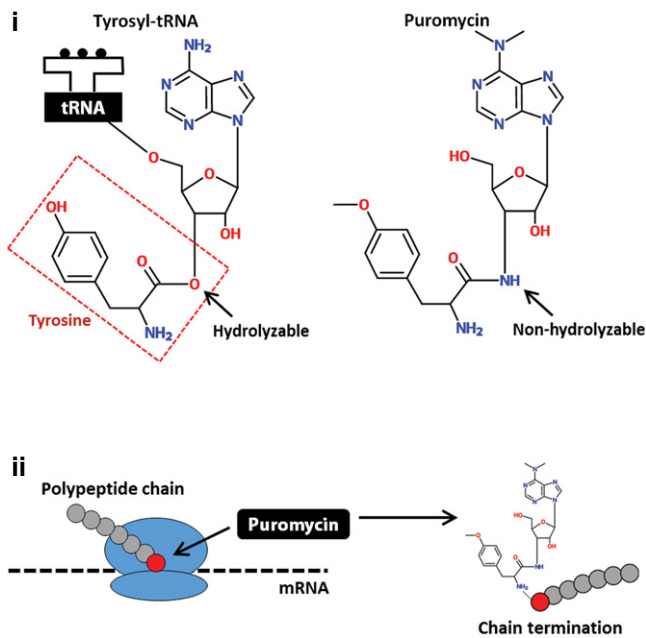
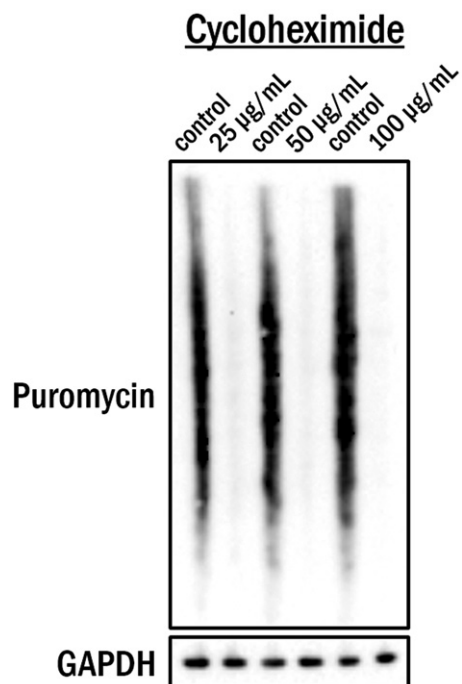


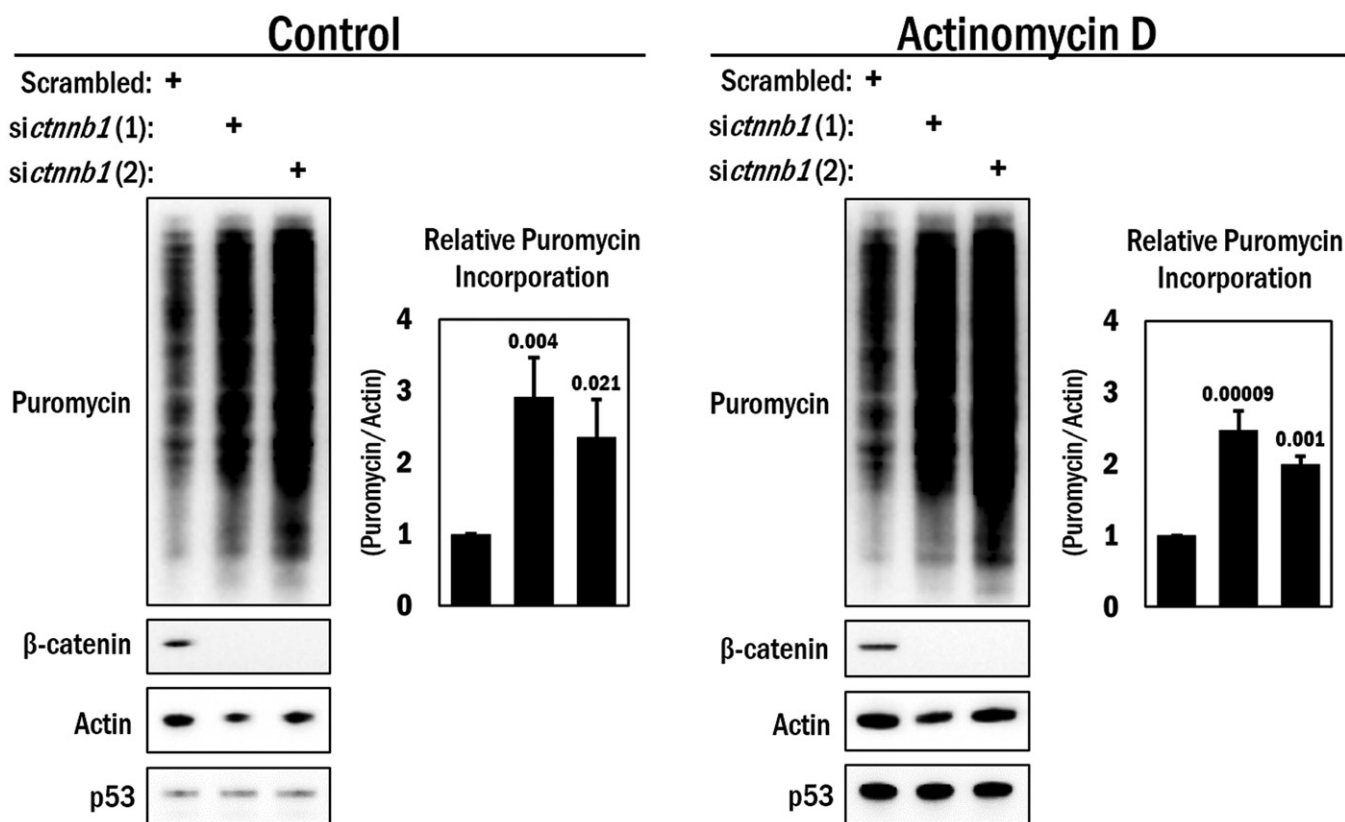
## Expanded View Figures

**Figure EV1. Depiction of the SUNSET technique.**

(i) Puromycin is structurally similar to tyrosyl-tRNA, but contains a non-hydrolyzable amide bond where tyrosine is normally cleaved from the tRNA complex and incorporated into a polypeptide chain. (ii) Puromycin is added to a growing polypeptide chain and terminates elongation of the peptide chain synthesis.

**Figure EV2. Inhibition of translation by cycloheximide assessed by SUNSET assay.**

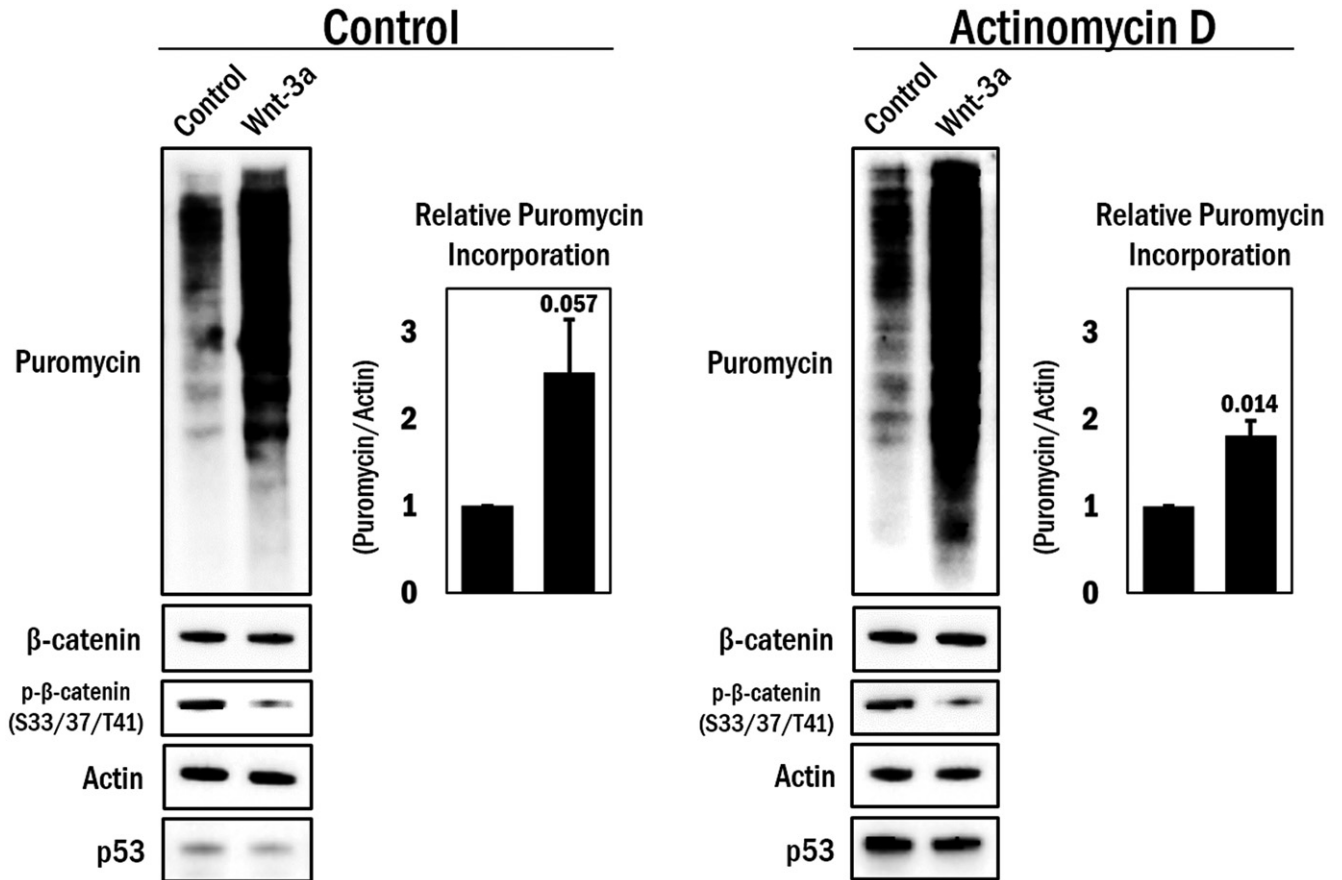
HEK 293T cells were treated with indicated concentrations of cycloheximide or solvent (water) for 4 h prior to incubation with 0.5  $\mu\text{M}$  puromycin for 15 min. Cell lysates were subjected to Western blot analysis for detection of incorporated puromycin. GAPDH was used as a loading control.



**Figure EV3. De-repression of  $\beta$ -catenin-mediated translation repression is independent of transcription.**

A10 cells were transfected with siRNAs targeting *ctnnb1* ( $\beta$ -catenin) or scrambled RNA (control) and 36 h later treated with either actinomycin D (0.5  $\mu$ g/ml) or DMSO for 4 h. Before harvesting, the cells were pulsed with 0.5  $\mu$ M puromycin for 15 min and subjected to Western blot analysis for detection of the puromycin incorporated peptides.  $\beta$ -Catenin blots indicated efficacy of siRNA. Actin was used as a loading control, and p53 was used as a control for actinomycin D activity. The average puromycin/actin ratio is shown in the graphs to the right ( $n = 3$ ). A one-way ANOVA and Tukey post hoc test were performed, with  $P$ -values indicated above the error bars.

Source data are available online for this figure.



**Figure EV4. De-repression of the  $\beta$ -catenin-mediated translation repression by Wnt stimulation is independent of transcription.**

A10 cells were serum deprived overnight prior to 1 h pre-treatment with either actinomycin D (0.5  $\mu$ g/ml) or its solvent (DMSO), and the cells were stimulated with Wnt-3a (100 ng/ml) or its solvent (0.1% BSA in PBS) for 4 h. Before harvesting for Western blot analysis, the cells were further treated with 0.5  $\mu$ M puromycin for 15 min. Total  $\beta$ -catenin and phospho- $\beta$ -catenin (S33/37/T41) levels indicate effective Wnt-3a stimulation. P53 was used as a control for actinomycin D activity, and actin was used as a loading control. The average puromycin/actin ratio was graphed ( $n = 3$ ). Error bars indicate standard deviation. An independent samples t-test was performed (two-tailed), with the *P*-value indicated above the error bar.

Source data are available online for this figure.