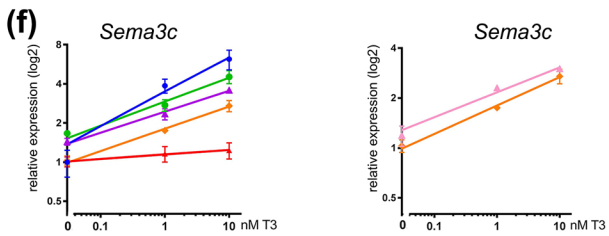
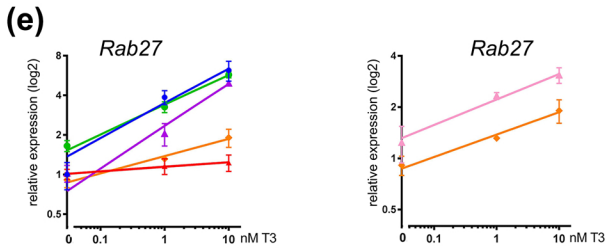
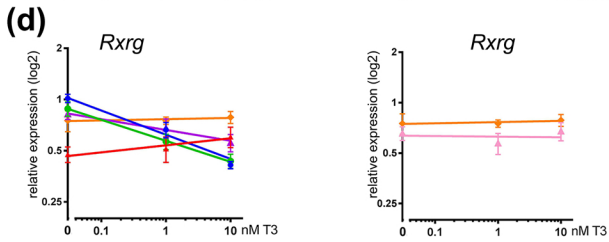
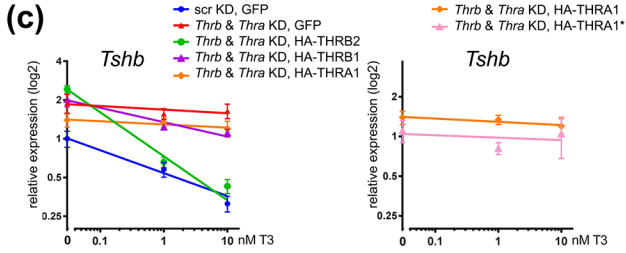
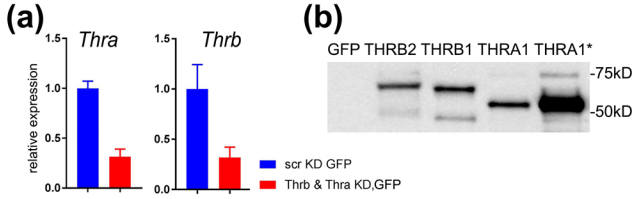


# Supplemental Figure 1



Supplemental Figure 1. *Functional differences between THR isoforms in positive and negative regulation of gene expression.* (a) Both *Thra* and *Thrb* were knocked down in T $\alpha$ T1.1 cells. Relative expression of *Thrb* in control (scr KD, GFP) and *Thrb* KD cells measured by qRT-PCR and normalized to *Actb* mRNA (see Materials and methods). THR gene expression was reduced over 70% ( $p < 0.05$ ). (b) Expression level of each HA-THR isoform in *Thrb* KD T $\alpha$ T1.1 cells were tested by western blotting with anti-HA antibody. High levels of HA-THRA expression were observed when the amounts of adenovirus comparable to other THR constructs were used (THRA1\*). Relative expression of (c, d) negatively and (e, f) positively regulated genes were measured by qRT-PCR and normalized to *Actb* mRNA. Relative expression (Y axis (log<sub>2</sub>)) of (c) *Tshb*, and (d) *Rxrg* decreased with increased concentration of T3 (X axis (log<sub>10</sub>)). KD of *Thrb* abolishes T3 dependent repression. Expression of HA-tagged THRB2 proteins in double KD T $\alpha$ T1.1 cells reconstituted T3 dependent gene repression, THRB1 had weaker ability to regulate *Tshb* and *Rxrg*. Expression of THRA1 was unable to rescue *Thrb* KD phenotype even at high levels of HA-THRA expression (see right panels for two levels of THRA, HA-THRA and HA-THRA\*) Relative expression (Y axis (log<sub>2</sub>)) of (e) *Rab27*, and (f) *Sema3c* increased with increased concentration of T3 (X axis (log<sub>10</sub>), Y intersects at 0nM). Double KD abolishes T3 dependent gene activation). Expression of HA tagged THR isoforms in KD T $\alpha$ T1.1 cells reconstituted T3 dependent gene activation. Data points are presented as mean  $\pm$  SEM. Differences were considered to be significant at  $p < 0.05$ .