

## Supplementary Materials

### **Involvement of gonadotropin-inhibitory hormone in pubertal disorders induced by thyroid status**

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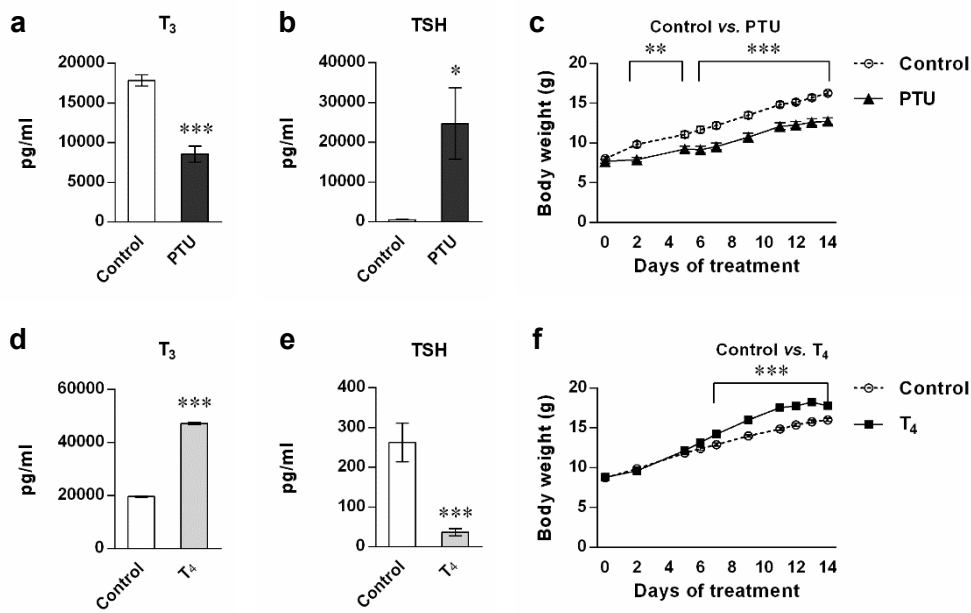
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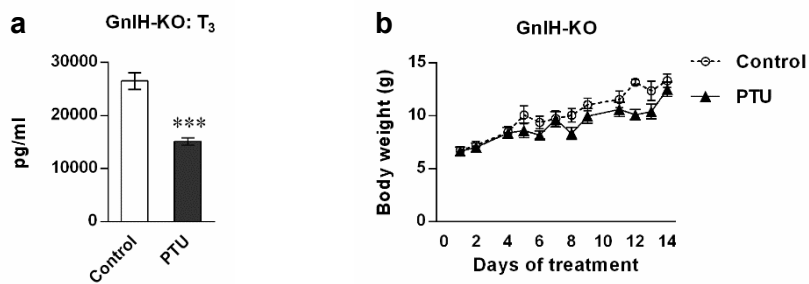
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## Supplementary Figure 1



**Supplementary Figure 1. Successful induction of hypothyroidism and hyperthyroidism in mice.** Hypothyroidism (PTU group, Upper panel) or hyperthyroidism ( $T_4$  group, Lower panel) was confirmed in hormonal levels of  $T_3$  (A or D), TSH (B or E) and body weight (C or F). 0.1% PTU or 0.001%  $T_4$  was administered to immature female mice aged 20 days in drinking water for 2 weeks, respectively. Data represent mean  $\pm$  SEM (A and B, n = 7 per group; C and F, n = 10 per group, D and E, n = 6 in control and n = 7 in  $T_4$  group). \* $p$  < 0.05; \*\* $p$  < 0.01; \*\*\* $p$  < 0.001 by unpaired  $t$  test.

## Supplementary Figure 2



**Supplementary Figure 2. Induction of hypothyroidism into GnlH-knockout female mice.** Effect of PTU administration in GnlH-KO female mice. 0.1% PTU was administered to GnlH-KO female mice aged 20 days in drinking water, then the changes in T<sub>3</sub> levels (A) and body weight (B) were measured. Data represent mean  $\pm$  SEM (B, n = 6 in WT and n = 7 in GnlH-KO group; A, n = 5 per group; B, n = 10 in control and n = 16 in PTU group). \*\*\*p < 0.001 by unpaired *t* test.

## Supplementary Table 1

Target	Sequences	GenBank	Used in
<b>GnIH-F</b>	5'-TGGAAGGACCATAGATGAGAAA-3'	NM_021892.1	qPCR
<b>GnIH-R</b>	5'-GCTGTTGTTCTCCCAAACCT-3'		
<b>Kiss1-F</b>	5'-AGCTGCTGCTTCTCCTCTGT-3'	NM_178260.3	qPCR
<b>Kiss1-R</b>	5'-GCATACCGCGATTCTTTT-3'		
<b>GnRH-F</b>	5'-AGCACTGGTCTATGGGTTG-3'	NM_008145.2	qPCR
<b>GnRH-R</b>	5'-CCTGGCTTCTCTTCAATCA-3'		
<b>GAPDH-F</b>	5'-ACAACCTTGGCATTGTGGAA-3'	NM_008084.2	qPCR
<b>GAPDH-R</b>	5'-GATGCAGGGATGATGTTCTG-3'		
<b>TR<math>\alpha</math>-F</b>	5'-CACTCTTCTGGAGGTCTTTGA-3'	NM_178060.2	ISH
<b>TR<math>\alpha</math>-R</b>	5'-TCTATATTCTCCCTTGCTTGG-3'		
<b>TR<math>\beta</math>-F</b>	5'-TCCTCAGTGATGCGCTTATG-3'	NM_001113417.1	ISH
<b>TR<math>\beta</math>-R</b>	5'-TGTGCATAAGATGGGGTCAG-3'		
<b>- 2207F</b>	5'-CTGAGTGATTCCCAAGACC-3'	NM_021892.1	ChIP-qPCR
<b>- 2207R</b>	5'-TCTTGCTAGCTTGTATTATTCAGGT-3'		
<b>- 1680F</b>	5'-CTGGTGGAGCAGAAGGGTAG-3'	NM_021892.1	ChIP-qPCR
<b>- 1680R</b>	5'-CGCTCTAAGCAGGTCTCTGG-3'		
<b>- 1257F</b>	5'-TTCTTGGCTACCACAGACCA-3'	NM_021892.1	ChIP-qPCR
<b>- 1257R</b>	5'-CCCTGTTCCGAAGGTGTCTA-3'		
<b>- 1014/999F</b>	5'-GTGTGGAGGTGGATGGATCT-3'	NM_021892.1	ChIP-qPCR
<b>- 1014/999R</b>	5'-TTTTGGAGAGGCTGACTGGT-3'		
<b>- 688F</b>	5'-GAGCAGGAAGGTAGGACGTG-3'	NM_021892.1	ChIP-qPCR
<b>- 688R</b>	5'-GCAGCCTCCTTGTATTTC-3'		

**Supplementary Table 1.** Primers used in this study. Genomic sequence of GnIH promoter region was obtained from chromosome 6:50650672-50654439 bp of mouse genome.