

Figure S1. Expression of differentially expressed lncRNAs in the TCGA database.

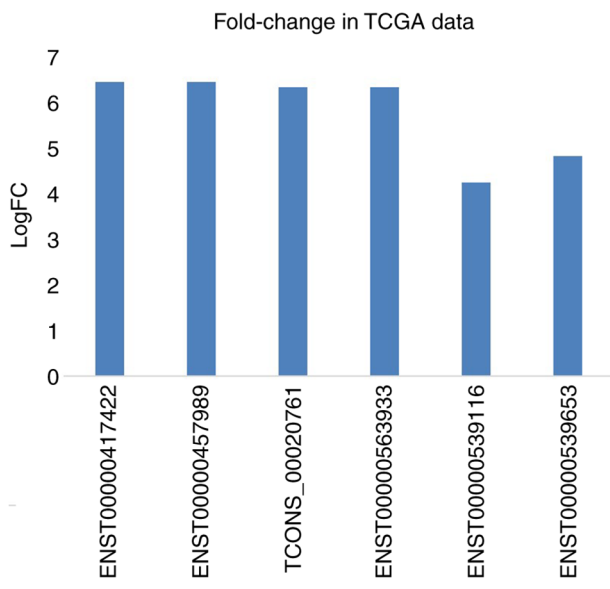


Figure S2. Expression of differentially expressed lncRNAs between the microarray and RT-qPCR results. The heights of the columns represent the log-transformed median fold changes (tumor/normal tissues) in the expression in 54 paired PTC and non-cancerous thyroid tissues. PTC, papillary thyroid cancer.

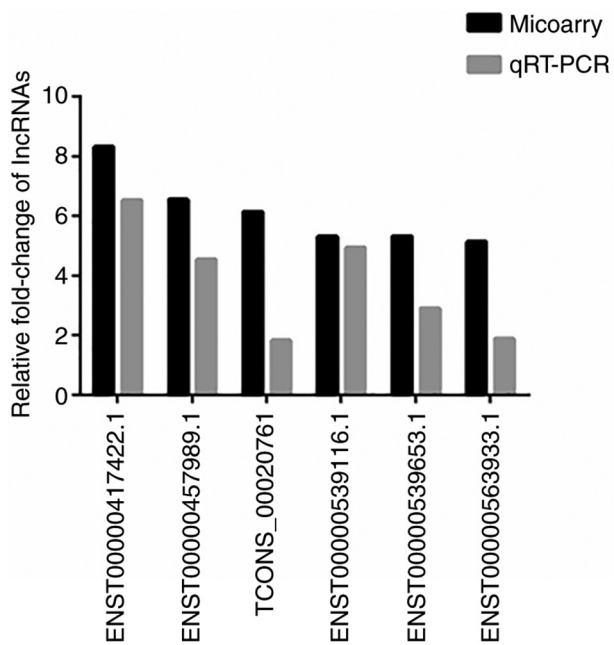


Figure S3. Four representative pathological images of PTC and normal control samples. PTC, papillary thyroid cancer. (A) A male 56-year-old patient with PTC. (B) A female 32-year-old patient with PTC. (C) A female patient 45-year-old with PTC. (D) A male 55-year-old patient with PTC. PTC, papillary thyroid cancer.

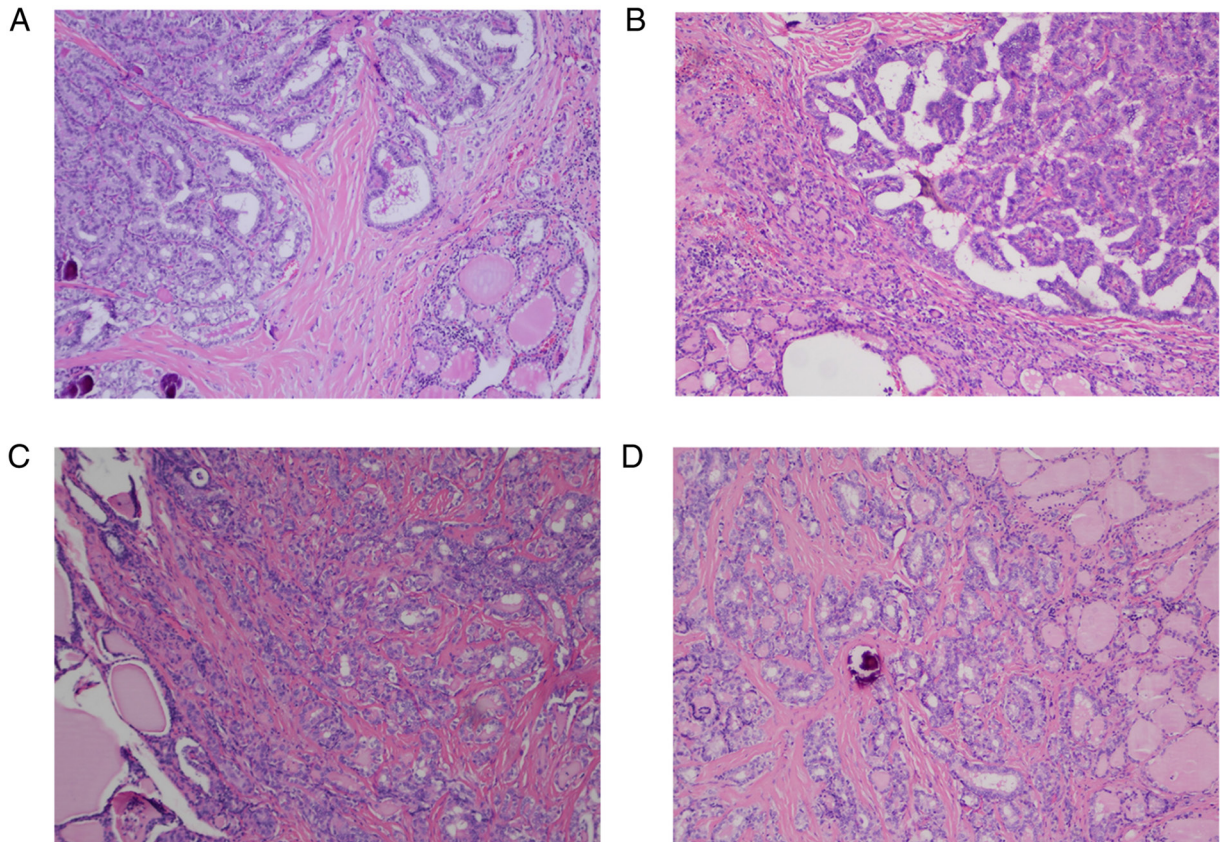


Figure S4. Cut-off point determination using ROC curve. (A) Histogram of LINC02454 expression level in 484 patients with PTC from the TCGA database classifying them into 2 groups according to the cut-off point determined by the Youden index. (B) ROC curve as a result of Youden index method with optimal cut-off point for LINC02454 and the quality of the prediction assessed by the AUC. ROC, receiver operating characteristic; AUC, area under the curve; PTC, papillary thyroid cancer.

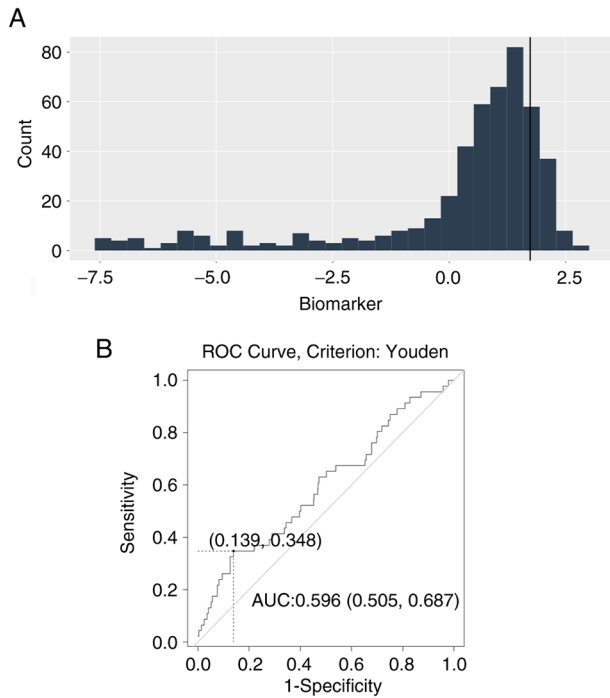


Figure S5. Association of clinical traits and disease-free survival in the TCGA PTC cohort. Poor disease-free survival was associated with (B) an advanced N stage (0.0386), (C) an advanced pathological stage (P=0.000827), and (D) an advanced T stage (P=0.00205), but not with (A) a higher lymph node count (P=0.534). PTC, papillary thyroid cancer.

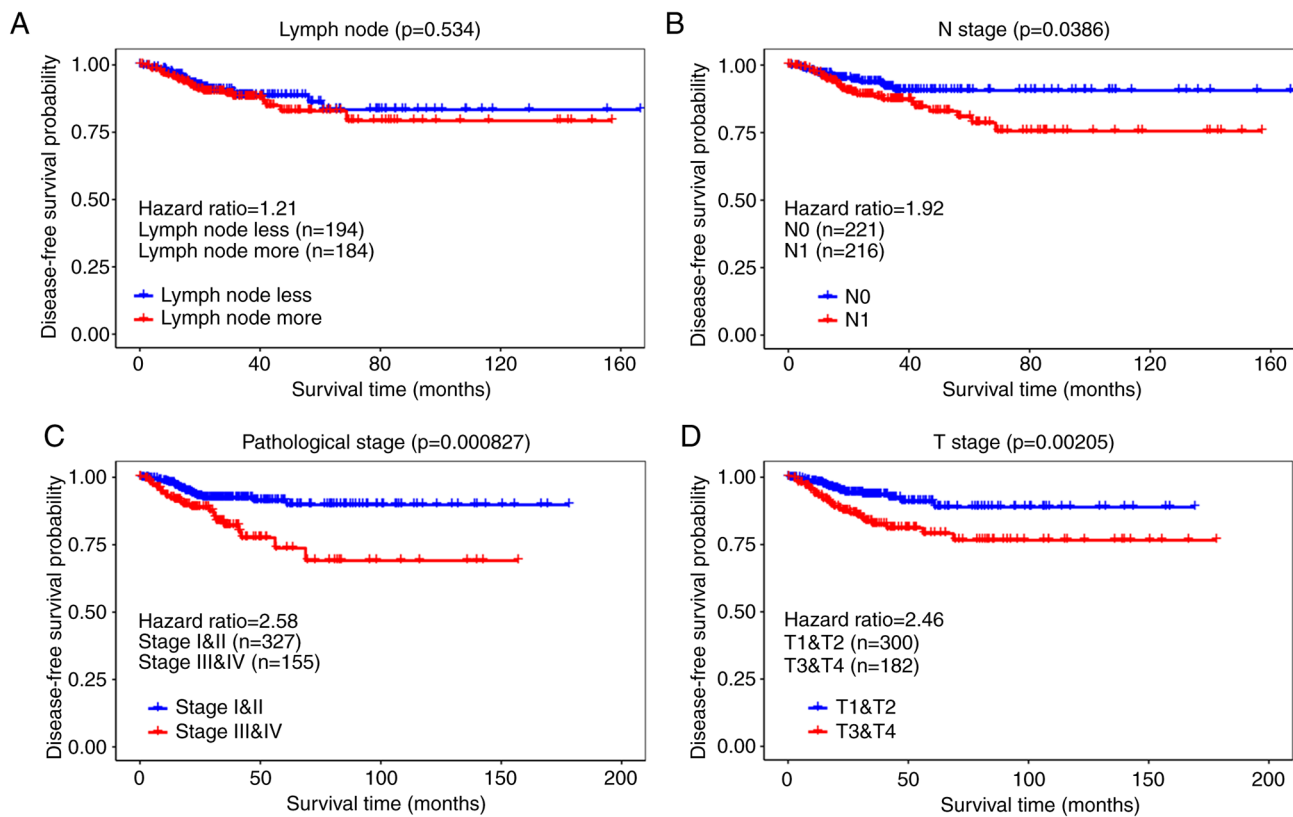


Table SI. Top 10 differentially expressed upregulated lncRNAs in the microarray.

lncRNA ID	Fold Change	P -value
ENST00000417422.1	317.4575	0.000031
ENST00000457989.1	94.12319	0.000003
XR_429125.1	89.38535	0.000109
TCONS_00020761	70.23221	0.000251
HIT000218960	64.69215	0.006213
uc021ssa.1	43.16758	0.000024
ENST00000539116.1	40.02352	0.002246
ENST00000539653.1	39.99428	0.001013
ENST00000563933.1	35.21136	0.000805
TCONS_00010527	31.60832	0.001210

LINC02454 has two transcripts (ENST00000539116.1 and ENST00000541391.1). The quantitative primers are designed in the common exon to reflect the total transcription of LINC02454. Bold font indicates that ENST00000539116.1 is one of the transcripts of LINC02454.