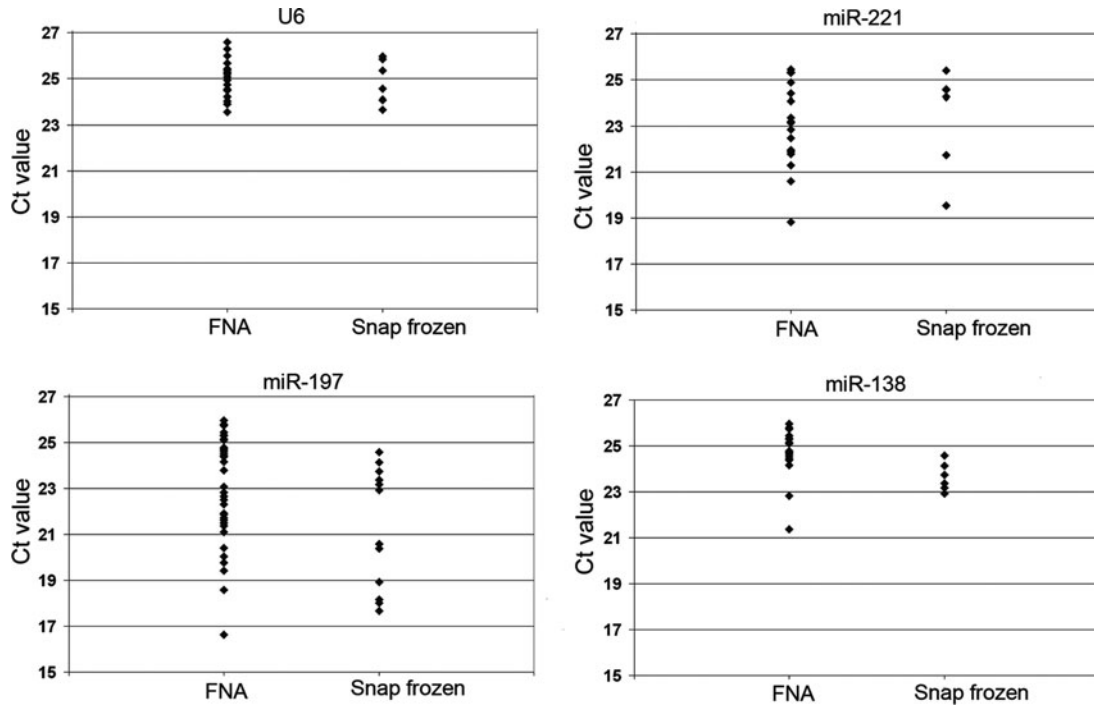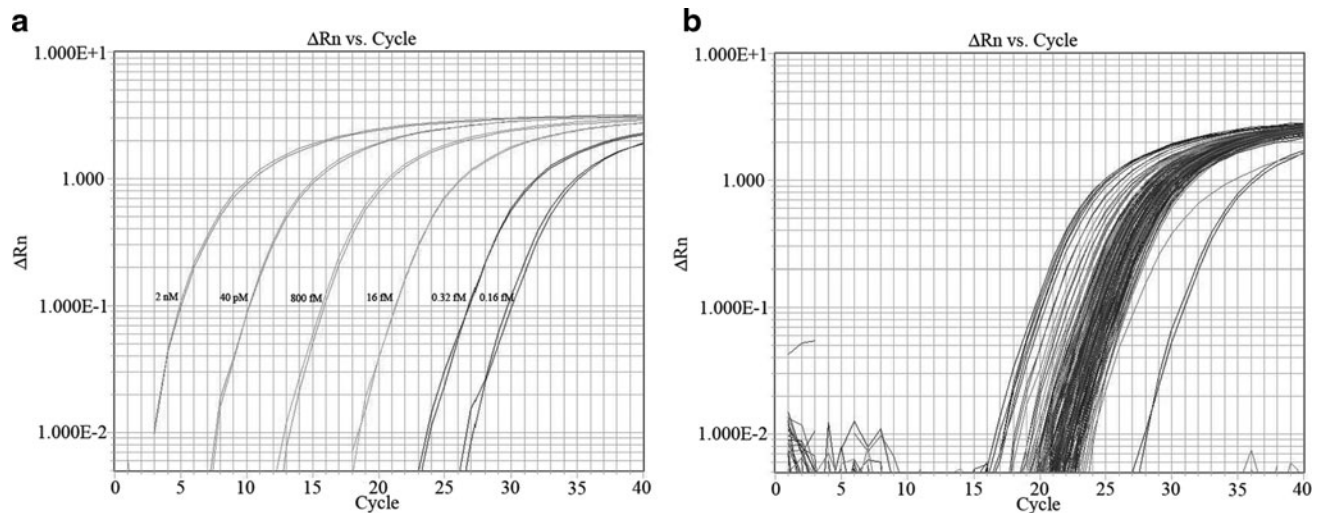# Supplementary Data

SUPPLEMENTARY FIG. S1. Real-time PCR Ct values of U6, miR-221, -197, and -138. FNA, archived FNA samples ($n = 18$); snap-frozen, fresh snap-frozen samples of two normal thyroid tissues, two PTC tumors, and two paired nonaffected thyroid tissues ($n = 6$). PCR, polymerase chain reaction; FNA, fine needle aspiration; miR, microRNA.

SUPPLEMENTARY FIG. S2. Amplification plots of miR-197 in the TaqMan real-time PCR miR assay. **(a)** Amplification plots of synthetic miR-197 with 50 ng yeast tRNA present as complex background. Target input ranges between 2 nM and 0.2 fM in a reaction. **(b)** Amplification plots of miR-197 detected in RNA samples extracted from thyroid FNA specimens.

Sample ID	FNA category[a]	Histological diagnosis	4-miR prediction	
			LDA	Logistic regression
S1	Atypia	NH	Benign	Benign
S2	Atypia	NH	Benign	Benign
S3	Atypia	NNG	Benign	Benign
S4	Atypia	FA	Benign	Benign
S5	Atypia	FA	Benign	Benign
S6	Atypia	FA	Benign	Benign
S7	Atypia	FA	Benign	Benign
S8	Atypia	FA	Benign	Benign
S9	Atypia	FA	Benign	Benign
S10	Atypia	HA	Benign	Malignant
S11	Atypia	NH	Benign	Benign
S12	Atypia	NH	Benign	Benign
S13	Atypia	NH	Benign	Benign
S14	Atypia	NH	Benign	Benign
S15	Atypia	NH	Benign	Benign
S16	Atypia	NH	Malignant	Malignant
S17	Atypia	ATC	Malignant	Malignant
S18	Atypia	FTC	Malignant	Malignant
S19	Atypia	FTC	Malignant	Malignant
S20	Atypia	FTC	Benign	Benign
S21	Atypia	fvPTC	Malignant	Malignant
S22	Atypia	fvPTC	Malignant	Malignant
S23	Atypia	fvPTC	Malignant	Malignant
S24	Atypia	fvPTC	Malignant	Malignant
S25	Atypia	PTC	Malignant	Malignant
S26	Suspicious	FTC	Malignant	Malignant
S27	Suspicious	FTC	Malignant	Malignant
S28	Suspicious	PTC	Malignant	Malignant
S29	Suspicious	PTC	Malignant	Malignant
S30	Suspicious	PTC	Malignant	Malignant
S31	Malignant	ATC	Benign	Malignant
S32	Malignant	ATC	Malignant	Malignant
S33	Malignant	PTC	Benign	Malignant
S34	Malignant	PTC	Malignant	Malignant
S35	Malignant	PTC	Malignant	Malignant
S36	Malignant	PTC	Malignant	Malignant
S37	Malignant	PTC	Malignant	Malignant
S38	Malignant	PTC	Malignant	Malignant
S39	Malignant	PTC	Malignant	Malignant
S40	Malignant	PTC	Malignant	Malignant
S41	Malignant	PTC	Malignant	Malignant
S42	Malignant	PTC	Malignant	Malignant
S43	Malignant	PTC	Malignant	Malignant
S44	Malignant	PTC	Malignant	Malignant
S45	Malignant	PTC	Malignant	Malignant
S46	Malignant	PTC	Malignant	Malignant
S47	Malignant	PTC	Malignant	Malignant
S48	Malignant	PTC	Malignant	Malignant
S49	Malignant	PTC	Malignant	Malignant
S50	Malignant	PTC	Malignant	Malignant
S51	Malignant	PTC	Malignant	Malignant
S52	Malignant	PTC	Malignant	Malignant
S53	Malignant	PTC	Malignant	Malignant
S54	Malignant	PTC	Malignant	Malignant
S55	Malignant	PTC	Malignant	Malignant
S56	Malignant	PTC	Malignant	Malignant
S57	Malignant	PTC	Malignant	Malignant
S58	Malignant	PTC	Malignant	Malignant
S59	Malignant	PTC	Malignant	Malignant
S60	Malignant	PTC	Malignant	Malignant

[a]FNA category was based on the Bethesda system for thyroid cytopathology.

FA, follicular adenoma; NH, nodular hyperplasia; NNG, non-neoplastic goiter; HA, Hurthle adenoma; ATC, anaplastic thyroid carcinoma; FTC, follicular thyroid carcinoma; fvPTC, follicular variant papillary thyroid carcinoma; PTC, conventional papillary thyroid carcinoma; FNA, fine needle aspiration; LDA, linear discriminant analysis; miR, microRNA.

Sample ID	FNA category[a]	Histological diagnosis	4-miR prediction	
			LDA	Logistic regression
S61	Atypia	FA	Benign	Benign
S62	Atypia	FA	Benign	Benign
S63	Atypia	FA	Benign	Benign
S64	Atypia	FA	Benign	Benign
S65	Atypia	FA	Benign	Benign
S66	Atypia	FA	Benign	Benign
S67	Atypia	FA	Malignant	Malignant
S68	Atypia	FA	Malignant	Malignant
S69	Atypia	HA	Benign	Benign
S70	Atypia	HA	Benign	Malignant
S71	Atypia	HA	Malignant	Malignant
S72	Atypia	LT	Benign	Benign
S73	Atypia	NH	Benign	Benign
S74	Atypia	NH	Benign	Benign
S75	Atypia	NH	Benign	Benign
S76	Atypia	NH	Malignant	Benign
S77	Atypia	NNG	Benign	Benign
S78	Atypia	NNG	Benign	Benign
S79	Atypia	NNG	Benign	Benign
S80	Atypia	FTC	Benign	Benign
S81	Atypia	FTC	Benign	Benign
S82	Atypia	FTC	Benign	Benign
S83	Atypia	FTC	Malignant	Malignant
S84	Atypia	FTC	Malignant	Malignant
S85	Atypia	FTC	Malignant	Benign
S86	Atypia	fvPTC	Benign	Benign
S87	Atypia	fvPTC	Malignant	Malignant
S88	Atypia	PTC	Malignant	Malignant
S89	Atypia	PTC	Malignant	Malignant
S90	Atypia	PTC	Malignant	Malignant
S91	Follicular neoplasm	FA	Benign	Benign
S92	Follicular neoplasm	FA	Malignant	Benign
S93	Follicular neoplasm	NH	Benign	Benign
S94	Follicular neoplasm	NH	Benign	Malignant
S95	Follicular neoplasm	NNG	Benign	Benign
S96	Suspicious	fvPTC	Malignant	Malignant
S97	Suspicious	PTC	Malignant	Malignant
S98	Suspicious	PTC	Malignant	Malignant
S99	Malignant	FTC	Malignant	Malignant
S100	Malignant	FTC	Malignant	Malignant
S101	Malignant	PTC	Benign	Benign
S102	Malignant	PTC	Malignant	Malignant
S103	Malignant	PTC	Malignant	Malignant
S104	Malignant	PTC	Malignant	Malignant
S105	Malignant	PTC	Malignant	Malignant
S106	Malignant	PTC	Malignant	Malignant
S107	Malignant	PTC	Malignant	Malignant
S108	Malignant	PTC	Malignant	Malignant
S109	Malignant	PTC	Malignant	Malignant
S110	Malignant	PTC	Malignant	Malignant
S111	Malignant	PTC	Malignant	Malignant
S112	Malignant	PTC	Malignant	Malignant
S113	Malignant	PTC	Malignant	Malignant
S114	Malignant	PTC	Malignant	Malignant
S115	Malignant	PTC	Malignant	Malignant
S116	Malignant	PTC	Malignant	Malignant
S117	Malignant	PTC	Malignant	Malignant
S118	Malignant	PTC	Malignant	Malignant
S119	Malignant	PTC	Malignant	Malignant
S120	Malignant	PTC	Malignant	Malignant

(*continued*)

Sample ID	FNA category[a]	Histological diagnosis	4-miR prediction	
			LDA	Logistic regression
S121	Malignant	PTC	Malignant	Malignant
S122	Malignant	PTC	Malignant	Malignant
S123	Malignant	PTC	Malignant	Malignant
S124	Malignant	PTC	Malignant	Malignant
S125	Malignant	PTC	Malignant	Malignant
S126	Malignant	PTC	Malignant	Malignant
S127	Malignant	PTC	Malignant	Malignant
S128	Malignant	PTC	Malignant	Malignant

[a]FNA category was based on the Bethesda system for thyroid cytopathology.
LT, lymphocytic thyroiditis.