

**Supplementary Table 1. Criteria for test positive were defined according to the four criteria**

Criteria No.	Test positive	Test negative
1	Bethesda category VI	Bethesda categories I, II, III, IV, and V
2	Bethesda categories V and VI	Bethesda categories I, II, III, and IV
3	Bethesda categories IV, V, and VI	Bethesda categories I, II, and III
4	Bethesda categories III, IV, V, and VI	Bethesda categories I and II

I, non-diagnostic; II, benign; III, atypia of undetermined significance/follicular lesion of undetermined significance; IV, follicular neoplasm or suspicious for follicular neoplasm; V, suspicious for malignancy; VI, malignancy.

**Supplementary Table 2. Histopathologic results of 1,170 malignancies**

Histopathologic result	No. (%)
Papillary carcinoma	1,096 (93.7)
Conventional	1,011 (86.3)
Follicular variant	85 (7.3)
Follicular carcinoma	51 (4.4)
Medullary carcinoma	12 (1.0)
Anaplastic carcinoma	5 (0.4)
Sarcoma	1 (0.1)
Lymphoma	3 (0.3)
Metastasis	2 (0.2)

**Supplementary Table 3. Overestimation of the sensitivity according to the carcinoma subtype**

	PTC only (n=3,810)	PTC & FVPTC & FC (n=3,946)	Non-conventional PTC (n=2,958)
TP	785	796	31
TN	2,797	2,797	2,797
FP	2	2	2
FN	226	351	128
Sensitivity	77.6	69.4	19.5
Specificity	99.9	99.9	99.9
Accuracy	94.0	91.1	95.6
PPV	99.7	99.7	93.9
NPV	92.5	88.9	95.6

Diagnostic performance was calculated according to criterion 1 which indicates Bethesda category VI (malignancy).

Non-conventional PTC includes FVPTC, FC, medullary carcinoma, anaplastic carcinoma, sarcoma, lymphoma, and metastasis.

PTC, papillary thyroid carcinoma; FVPTC, follicular variant papillary thyroid carcinoma; FC, follicular thyroid carcinoma; TP, true positive; TN, true negative; FP, false positive; FN, false negative; PPV, positive predictive value; NPV, negative predictive value.