

**Supplemental Table S6.** Associations between the Prognostic Factors and Treatment Outcome in Included Studies

Prognostic factor	Number <sup>a</sup> /significant <sup>b</sup>	
	OS	DFS
Age	7/7 (16, 17, 18, 21, 22, 25, 33) <sup>c</sup>	4/2 (21, 33)
Sex	7/1 (33)	4/1 (33)
Tumor size	7/4 (17, 18, 21, 33)	4/2 (21, 33)
Histological factors		
ETE	4/3 (17, 25, 33)	3/2 (30, 33)
Vascular invasion	5/2 (21, 33)	4/3 (21, 30, 33)
Capsular invasion	2/0	2/0
Lymphatic invasion	1/0	1/0
Tumor capsulation	2/2 (33, 34)	1/1 (33)
Resectability	1/1 (22)	1/0
Tracheal invasion	2/1 (17)	1/0
Growth type (mainly TIS pattern)	4/0	2/2 (21, 33)
Necrosis	2/2 (21, 33)	2/2 (21, 33)
Mitosis	3/1 (21)	2/1 (21)
Oxyphilic features	1/0	-
Multifocality	1/0	-
Convolutated nuclei	2/0	1/0
Papillary thyroid carcinoma likely nuclei feature	1/0	1/0
Coexistence with other thyroid cancer, coexisted thyroid cancer type	1/0	-
Distant metastasis	2/1 (17)	1/0
pT stage	3/1 (33)	3/1 (33)
pN stage	4/3 (17, 25, 33)	3/0
Cancer stage	4/3 (16, 21, 31)	1/1 (21)
Resection margins	3/2 (25, 33)	3/1 (33)
Response to initial therapy	1/1 (25)	1/0
Treatment		
Operation method	3/0	1/1 (33)
Treatment modality (operation-based, radiation-based, etc.)	1/1 (22)	1/0
RAI therapy	3/2 (16, 17)	1/1 (33)
RAI avidity	2/0	1/0
Radiation therapy	3/1 (33)	1/1 (33)
Chemotherapy	1/1 (33)	1/1 (33)
Kinase inhibitor	1/1 (33)	1/1 (33)
FDG-PET avidity	1/1 (31)	-
Metabolic tumor volume/total lesion glycolysis	1/1 (31)	-
Postoperative Tg level or early Tg progression	3/2 (27, 31)	1/1 (27)
Immunohistochemistry		
Ki-67	2/1 (21)	1/1 (21)
TP53	1/1 (33)	1/1 (33)
PTEN	1/1 (33)	1/1 (33)
IMP3	1/1 (18)	-

*(Continued to the next page)*

**Supplemental Table S6.** Continued

Prognostic factor	Number <sup>a</sup> /significant <sup>b</sup>	
	OS	DFS
Genetic alteration		
BRAF or RAS mutation	2/0	2/1 (33)
TERT promoter mutation	2/0	2/1 (33)
TERT promoter mutation+BRAF or RAS mutation	2/1 (25)	1/0

OS, overall survival; DFS, disease free survival; ETE, extrathyroidal extension; TIS, trabecular/insular/solid; RAI, radioactive iodine; FDG, F-18-fluorodeoxyglucose; PET, positron emission tomography; Tg, thyroglobulin; IMP3, insulin-like growth factor II mRNA binding protein-3; TERT, telomerase reverse transcriptase.

<sup>a</sup>The total number of enrolled studies discussing prognostic factors; <sup>b</sup>The number of studies evaluated as significant prognostic factors among enrolled studies; <sup>c</sup>The reference numbers in manuscript.