

THE EXPRESSION OF STOMATIN-LIKE PROTEIN 2 IN HUMAN PAPILLARY THYROID CANCER AND REGULATED BY TGF- β 1 IN K1 CELLS

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Background/Purpose: Papillary thyroid cancer (PTC) accounts for 80-90% of cases in thyroid malignancy. Stomatin-like protein 2 (SLP-2) is a novel member of the stomatin gene superfamily and has an unknown function in PTC. This study explored the diagnostic value of SLP-2 in patients with PTC and investigated whether SLP-2 expression is regulated by TGF- β .

Methods: The formalin-fixed paraffin-embedded samples from a total of 107 patients (99 classical and 8 follicular variant PTC) were examined. SLP-2 mRNA and protein expression in tissues was detected by immunohistochemistry (IHC) and qPCR, respectively. Proliferation marker Ki-67 was examined by IHC. The regulation of SLP-2 by TGF- β 1 was evaluated in K1 cells by Western blot.

Results: SLP-2 was overexpressed in classical PTC, but not in follicular variant PTC. The expression of SLP-2 was correlated with clinicopathological features. Overexpression of SLP-2 was found in large primary tumor (≥ 1 cm in size), the tumor at later stage, and metastatic lymph node. The expression of SLP-2 was correlated with Ki-67 confirmed by IHC. TGF- β 1 increased SLP-2 expression in K1 cells.

Discussion & Conclusion: We found for the first time that SLP-2 was overexpressed in human classical PTC. The correlation between SLP-2 expression and proliferation index of Ki-67 observed in PTC patients may be the feature of aggressive PTC and reflect disease severity. TGF- β stimulates SLP-2 expression in PTC cells, indicating that SLP-2 may be involved in PTC tumorigenesis. Our data suggest that SLP-2 could be considered as a useful diagnostic marker of classical PTC.