

We previously reported that galectin-1 gene expression increases up to 100-fold in oncogene-transformed rat thyroid cells compared with their normal counterparts and that the relative mRNA levels correlate with the degree of malignancy. In the present study we investigated whether galectin-1 is differentially expressed in human thyroid neoplasms, which range from well-differentiated tumors to undifferentiated anaplastic carcinomas. We analyzed 74 human thyroid specimens of neoplastic, hyperproliferative and normal tissues and several tumor cell lines. Galectin-1 mRNA and protein levels were higher in 6 thyroid carcinoma-derived cell lines than in normal thyroid primary cultures and adenoma cells. Galectin-1 mRNA levels increased in 28/40 papillary carcinomas and in 6/7 anaplastic carcinomas compared with normal or hyperplastic thyroid. Conversely, galectin-1 expression was unaffected in follicular carcinomas and benign adenomas. Immunohistochemical analysis of normal thyroid and papillary carcinoma sections revealed a higher content of galectin-1 protein in neoplastic follicular cells than in normal cells.