Thyroid nodules represent the most frequent endocrine lession in our population and it is neccessary to differentiate malignant lessions from them. The aim of the study was to validate determination of selected angiogenic, proliferative, and appptotic markers in cytosol tissue extracts. We analysed 166 tissue samples (85 goitres, benign adenomas and 10 malignat tumours in which VEGF, bFGF, Endostatin, Thymidinkinase ans TPS were determined. Main limitation of cytosolic analysis is tissue sample volume, that must be about 1cm3 and interindividual variability caused by tissue sample heterogeneity. Best way is to compare normal with pathological tissue samples from one patient. We fund significant differences amog histological groups in VEGF, bFGF, Endostatin and maily Tymidinkinase and TPS. These differences are not sufficiently huge to distinguish goitres and benign lessions . We also did not find any correlation between cytosolic markers and iminuhistochemistry markers . Cytosol analysis is not able to measure local expression and its differences in anylysed tissue, but it is able to quantitatively determine mean levels of selected markers.