TSPAN13 EXPRESSION IN OVARIAN CANCER

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INTRODUCTION

Epithelian ovarian cancer (EOC) is a major cause of gynaecologic cancer mortality in the Western World. The lack of specific markers and the few early symptoms that characterize EOC cause that 80% of patients are diagnosed at an advance stage of the disease, when the percentages of survival are very low. DNA microarrays have been widely applied to cancer trascriptome analysis of normal and tumor tissues from patients with different types of cancer to identify new prognostic biomarkers, to predict response to therapy and/or to discover molecular targets for the development of novel therapeutic approaches.

We have found around 400 genes deregulated in EOC using public cancer transcriptome data from multiple DNA microarrays analyses and among them we have identified overexpression of TSPAN13 in the most common subtypes of EOC: papillary serous, endometrioid and mucinous.

METHODS

An affinity-purified polyclonal rabbit antibody was raised against tspan13 using a peptide from the large extracellular region of the tspan13 protein (sequence accession number: NP_055214). To study protein levels of tspan13 in EOC, immunohistochemistry analysis was performed. Paraffin embedded EOC tissues were cut at 5-µm serial sections and were deparaffinized in xilene, rehydrated in graded ethanol (100-80%) and then boiled in 10 mM sodium citrate buffer (pH 6) containing 0.05% Tween-20 for antigen retrieval. After incubating the sections in blocking solution, they were incubated overnight at 4°C with antibody solution at 1:25 dilution. After blocking endogenous peroxidase with 3% H_2O_2, bound antibody was detected using secondary goat anti-rabbit coupled to peroxidase and 3-amino-9-ethyl carbazole as chromogenic substrate.
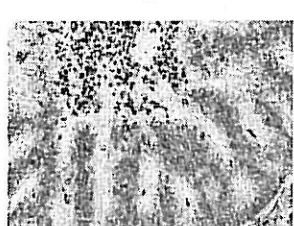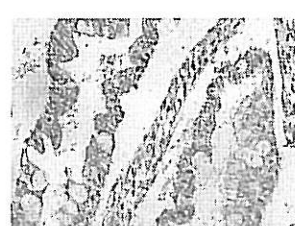
IMMUNOHISTOCHEMISTRY RESULTS

PAPILLARY SEROUS

GRADE	N	STAINING INTENSITY	MEAN STAINING INTENSITY
I	5	2.00±0.35	
II	6	1.83±0.21	1.94±0.13
III	7	2.00±0.19	
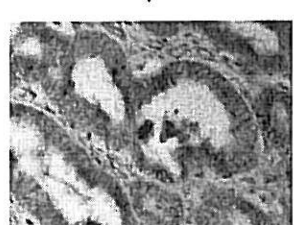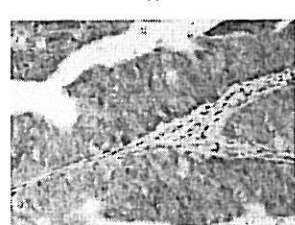
MUCINOUS

GRADE	N	STAINING INTENSITY	MEAN STAINING INTENSITY
I	6	2.08±	
II	5	2.50±	1.96±0.17
III	4	1.38±	

ENDOMETRIOID

GRADE	N	STAINING INTENSITY	MEAN STAINING INTENSITY
I	1	1	
II	4	1.62±0.12	2.16±0.19
III	7	2.64±0.14	

CONCLUSIONS

These studies revealed that tspan13 was overexpressed in all the samples analyzed, although the inmunostaining intensity depended on the subtype. The obtained results may provide the basis for its potential use as a novel marker for epithelial ovarian cancer. This study was supported by a grant from Universidad Francisco de Vitoria and Fundación Médica de la Mutua Madrileña.