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Ovarian tumor markers mediated by the TGF- β signaling pathway

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Human epithelial ovarian cancer (EOC) is the most lethal gynecological malignancy in women. It is highly lethal because of being an advanced stage upon diagnosis. Despite the improvement of treatment during last two decades, overall survival of patient with ovarian cancer at the advanced stage has not been enhanced significantly. Therefore, gaining biomarkers of early detection at an early curable stage and understanding of how the EOC develops are most important. Using proteomics, tissue microarray, immunohistochemistry and ELISA, several potential epithelial-type ovarian tumor progression markers were identified. The association of these tumor progression markers with clinicopathological features was further analyzed. We found that several proteins were differentially expressed between normal ovarian tissue and ovarian surface epithelial benign, borderline and malignant tumors, including serous, mucinous and clear cell tumors. Using loss-of-function approach, we found that these molecules were involved in EOC cell proliferation, migration and invasion. We also demonstrated that these molecules were regulated by the TGF- β signaling pathway. Furthermore, some of these biomarkers affected tumor formation in nude mice. Thus, the identification of tumor markers as novel EOC-related proteins may implicate for understanding tumorigenesis and provide a diagnostic tool and better therapeutic strategy.

Biography

Guoxiong Xu is a Professor of Oncology, Scientist and Director of Center Laboratory in Jinshan Hospital, Fudan University, China. He has obtained his MD from the Faculty of Medicine, Shanghai Second Medical University in China, a Master's degree in Medical and Pharmaceutical Research from the Free University of Brussels in Belgium and PhD degree from York University in Canada. He has also worked as a Clinician and Research Scientist at various universities and institutes. He has published more than 60 papers in peer-reviewed journals and has been serving as a Member of the Editorial Board in many scientific journals.

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