

Investigation and verification of new biomarkers for ovarian cancer with proteolytic variants of blood proteins

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Ovarian cancer is a fatal gynecologic cancer and cause high mortality among female population. There are lots of efforts on discovery of biomarkers for early detection of ovarian cancer. However, still no suitable biomarkers can be applied for early detection or prognostic prediction of ovarian cancers, especially by blood test. Tumor markers should meet the criteria as follows: (1) Reflection of tumor burden; (2) Levels should be quantifiable before and after surgical operations; (3) It can be detected in the live tumor tissues; and (4) Low level or absence in normal tissues. The purpose of this study is to verify whether the variants of factors contained in plasma or serum of ovarian cancer patients are new blood protein biomarkers for ovarian cancers. We are interested to investigate whether proteolytic species in human blood samples can be biomarkers for diagnosis of ovarian cancer. A new proteomic methodology has been implemented to mine these biomarkers of ovarian cancer. The blood samples of ovarian cancer patients at different stages were collected and analyzed by Western blot analysis with designed and generated antibodies that could specifically recognize these proteolytic products. On the other hand, we collected blood samples from normal individuals or patients with other types of cancers to confirm whether these variants could be characterized as the potential biomarkers for screening ovarian cancers. By using Western blot analysis, we tested over 100 clinical samples. Certain specific variants were detected in blood samples from patients of ovarian cancer, but not in that from normal individuals or from patients with other diseases, such as colorectal cancer, oral cancer, gastric cancer and diabetes mellitus. Our study clearly demonstrated certain proteolytic products of blood proteins are found to be positively correlated with the presence of ovarian cancers.

Biography

Song-Nan Chow was graduated from College of Medicine, National Taiwan University in 1968 (MD). He has obtained his PhD from Graduate Institute of Clinical Medicine, National Taiwan University in 1983. He did Internship at Maimonides Medical Center, New York City, USA during 1972-1973 and was a Senior Investigator in University of British Columbia, Vancouver, Canada and Eastern Virginia Medical School, Norfolk, USA during March 1984 to September 1984. He has served as the Professor and Head in Department of Obstetrics & Gynecology, College of Medicine and the Hospital from 1999 to 2005. He was the Principal Investigator of International HPV-008 Cervical Cancer Vaccine Trial (PATRICIA) during 2004-2010 at National Taiwan University Hospital, Taiwan.

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