#4198 Down-Regulation of a Novel Human Kallikrein Gene, KLK14, in Endocrine Related Cancers. George M. Yousef, Angeliki Magklara, Albert Chang, Klaus Jung, Dionyssios Katsaros, and Eleftherios P. Diamandis. *Humboldt University, Berlin, Germany, Institute of Obstetrics and Gynaecology, Turin, Italy, and University of Toronto, Toronto, ON, Canada.*

Kallikreins belong to the serine protease family of proteolytic enzymes. Growing evidences suggest that many kallikreins are implicated in carcinogenesis. By using the positional candidate approach, we were able to identify a new human kallikrein-like gene, KLK14 (also known as KLK-L6). This new gene maps to chromosome 19q13.3-q13.4 and is formed of seven exons and six intervening introns. KLK14 was defined as a kallikrein gene based on structural and mapping criteria, in relation to other known kallikrein genes. KLK14 is expressed in a variety of tissues, but highest levels are found in the central nervous system. Based on the differential expression of many other kallikreins in different malignancies, we hypothesised that KLK14 is also differentially expressed in tumors. We studied its expression , at the mRNA level, in matched pairs of normal and benign tissues from the same patient. In prostatic tissues, the expression of the gene was absent or lower in eight tumor tissues compared to their normal counterparts, and was higher than normal in only two tumor tissues . KLK14 was also found to have lower or no expression in seven out of ten testicular tumor tissues examined (compared to their normal counterparts), a comparable level of expression in one tumor and higher than normal in two tumors. While KLK14 expression was easily detectable in the normal ovarian cDNA examined, it was not expressed except in one out of the fifteen ovarian cancer tissues examined. Out of 25 breast tumors examined, KLK14 gene expression was undetectable in 21, lower than normal in 3, and comparable to the normal in only one tumor. In all cases, the actin gene was used as a control gene for the quality and quantity of the cDNA used. These preliminary results suggest that this gene is down regulated, at the mRNA level, in diverse malignancies. We conclude that KLK14 is a potential diagnostic and/or prognostic marker for different malignancies. Further studies are needed to elucidate the possible function of this gene as a tumor suppressor gene.