

#4200 Zyme/Protease M/Neurosin (KLK6 Gene): A New Biomarker for Ovarian Cancer Diagnosis and Monitoring. Eleftherios P. Diamandis, George Yousef, Antoninus Soosaipillai, and Peter Bunting. *Mount Sinai Hospital, University of Toronto, Toronto, ON, Canada, and Sunnybrook and Women's College Health Sciences Center, Toronto, ON, Canada.*

Zyme/protease M/neurosin is a new serine protease of the kallikrein gene family. The official name of this gene is KLK6, encoding for hK6 protein. We have recently developed recombinant protein, as well as monoclonal and polyclonal antibodies against hK6. An immunofluorometric procedure was also developed which is suitable for measuring hK6 concentration in serum. By using this immunoassay, we have quantified hK6 protein in serum of patients with ovarian cancer (N = 80), lung cancer (N = 18), prostate cancer (N = 40), gastrointestinal cancer (N = 28), testicular cancer (N = 78), medullary thyroid carcinoma (N=29), breast cancer (N = 24) and 81 normal controls (41 men and 40 women). By using 15 ug/L as an arbitrary cutoff, we found that 66% of patients with ovarian cancer had elevated levels of serum hK6, in comparison to normal patients or any other group, with the exception of one patient with testicular cancer and one patient with prostate cancer. When we measured hK6 concentration in serum of patients who have been operated for ovarian cancer and then monitored over time with CA125 analysis, hK6 concentration reflected tumor progression and regression, similarly to CA125 analysis. These data demonstrate that serum hK6 concentration has potential as a novel diagnostic and prognostic biomarker of ovarian carcinoma.