
PROSTASE/KLK-L1 IS DIFFERENTIALLY EXPRESSED IN NORMAL/BENIGN VERSUS MALIGNANT OVARIAN TISSUES

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Objectives: Prostase/KLK-L1 is a newly discovered member of the human kallikrein-like gene family. It has been shown that it is upregulated by androgens in the LNCaP prostatic carcinoma cell line, and by both androgens and progestins in the BT-474 breast cancer cell line. Based on its apparent association with hormonally regulated tissues, we have undertaken to screen normal, benign and malignant ovarian tissues for possible differential KLK-L1 expression.

Methods: Tissues were pulverized and total RNA was extracted using the Trizol® method. RNA was quantified by spectrophotometry, and was reverse-transcribed into cDNA. Using primers specific for KLK-L1, we amplified this gene by PCR. Identity of the PCR product was verified by sequencing.

Results: Based on 10 normal, 10 benign and 20 cancerous tissues, KLK-L1 is highly expressed in 50% of cancerous tissues but only in 15% of normal or benign tissues. 60% of normal/benign tissues do not express this gene whereas this is the case only in 20% of tumour tissues. These differences were statistically significant using Chi Square test ($p = 0.02$). There is no significant difference of KLK-L1 expression between normal and benign tissues.

Conclusions: Our finding may have applicability for the diagnosis and management of ovarian carcinoma. Currently we are developing immunoassays to examine KLK-L1 levels in tissues of ovarian cancer patients.