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HUMAN KALLIKREIN 7 (KLK7) AS A PROGNOSTIC MARKER IN BREAST CANCER

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Objectives: KLK7, also known as the human stratum corneum chymotryptic enzyme (HSCCE) is a new member of the tissue kallikrein gene family. Members of this family have been shown to be differentially expressed in various malignancies. KLK7 is regulated by steroid hormones in cancer cells. We hypothesized that KLK7 is differentially expressed in breast cancer. **Methods:** A quantitative PCR method, based on fluorescence LightCycler™ methodology was used to quantify mRNA levels in breast tumors. The real time PCR method was used to assess expression levels in 172 breast tumors. An optimal cutoff point was defined using chi-square (χ^2) analysis, KLK7 values were then compared with other established prognostic factors, in terms of progression-free survival (PFS) and overall survival (OS). **Results:** In multivariate analysis, KLK7 is an independent prognostic factor for both PFS and OS. Higher KLK7 expression was associated with decreased PFS (HR=2.19 and p=0.017) and OS (HR=2.13 and p=0.035). In addition, KLK7 expression is an independent prognostic marker in patients with nodal-positive status (P=0.043) and low PR levels (P=0.028). KLK7 higher expression is also associated with poor PFS (p=0.041) in patients with tumour size < 2cm. **Conclusions:** These results suggest that KLK7 is a novel, unfavorable prognostic marker in breast cancer. Since KLK7 encodes for a predicted secreted protein, its detection in serum may aid in breast cancer diagnosis.