Non-Invasive Fluid-Based Prostate Cancer Diagnostics

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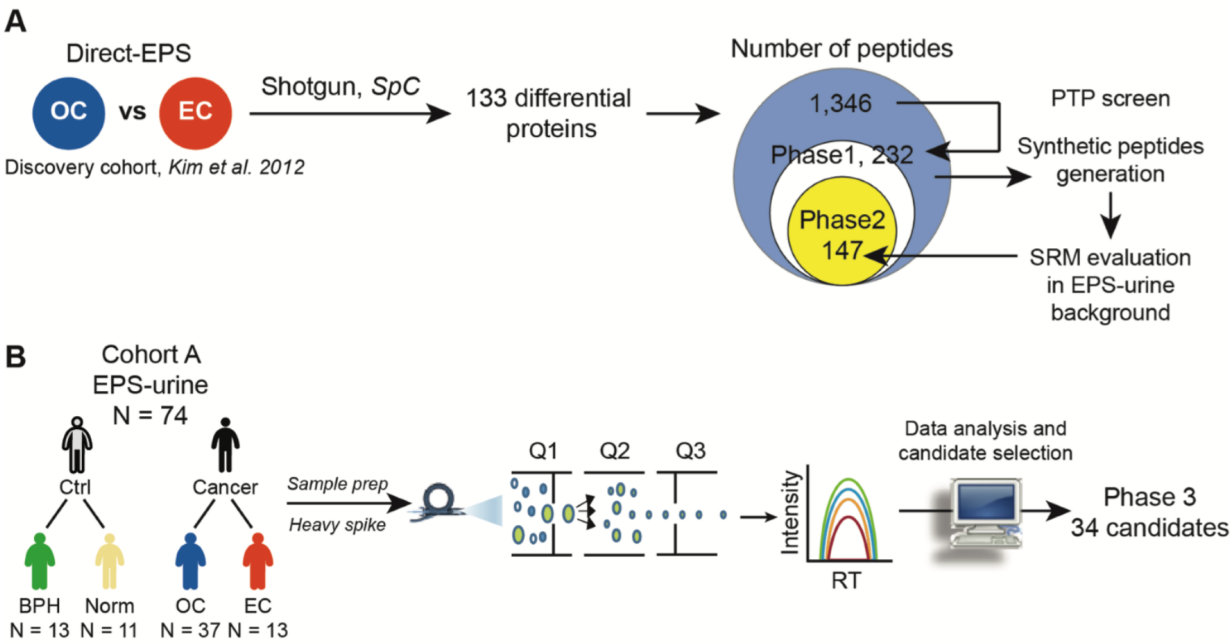
Technology description

Validated protein markers identified for prostate cancer diagnosis and prognosis in prostate fluid from urine

Few biomarkers for cancers have been identified and finding reliable versions for prostate cancer remain a significant challenge. Currently, no method exists that will distinguish between organ-confined and extra-prostatic cancers. Here, targeted proteomics and computational biology are combined to discover robust proteomic signatures for prostate cancer. Quantitative proteomics conducted in expressed prostatic secretions from men with extraprostatic and organ-confined prostate cancers are identified. The test is evaluated in patients using targeted proteomics of expressed prostatic secretions in urine. Results demonstrate that guided proteomics can discover highly accurate non-invasive biomarkers. The invention serves to reduce the need for invasive biopsies that can lead to further complications.



Systematic development of targeted proteomics assays in EPS-urines. (a) Discovery proteomics data from direct-EPS derived from patients with extracapsular (EC) or organ-confined (OC) prostatic tumors was used to select putative candidates. Proteotypic peptides from these candidates were carefully

selected. (b) All peptides that passed the above selection criteria were analyzed in clinically stratified EPS-urines (Cohort A).

Publications

Kim Y., et al. Targeted proteomics identifies liquid-biopsy signatures for extracapsular prostate cancer (2016)Nat CommunJun 28;7:11906.

Application area

Non-invasive test for prostate cancer diagnosis
Therapeutic prognosis assignment based on proteomic analysis

Institution

University Health Network

Inventors

联系我们

叶先生

电 话：021-65679356
手 机：13414935137

邮 箱：yeyingsheng@zf-ym.com