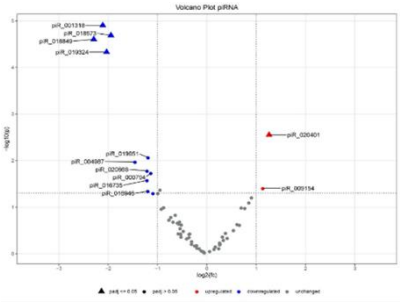
miRNdiMP

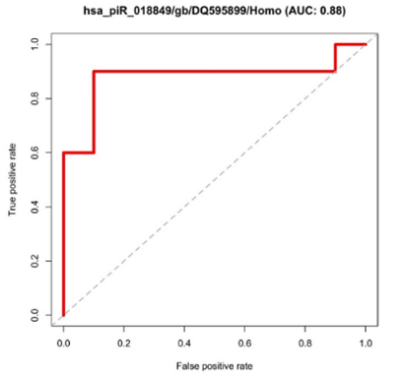
Differential Diagnosis of Prostate Diseases by microRNA

Invention

Benignant prostatic hyperplasia (BPH) is a disease that affects about 75 % of men between the ages of 60 to 69. Moreover, autopsy studies revealed that the prevalence increases up to 86% in people over 80 years of age. Differential diagnosis of BPH is difficult since various stages of BPH can show very similar symptoms as prostate cancer (PCA), which is the most common cancer and the third most frequent cause of male cancer deaths in Germany and worldwide.

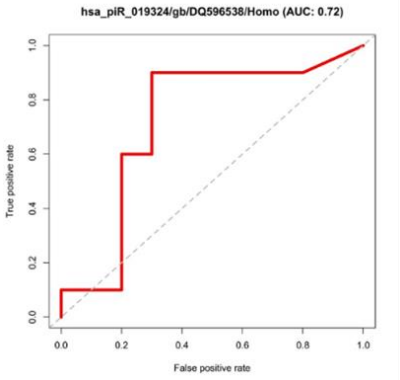


However, treatment regimen and outcome is essentially different between BPH and PCA.. Today for diagnostic differentiation between these two types of diseases, digital rectal examination, transrectal ultrasound and PSA levels in blood are used. Further methods for differential diagnosis include CT and MRI diagnosis, which are even more expensive and time consuming.



Since these methods are quite error-prone and/or resourceful, the gold standard for the diagnosis of different types of prostate disease, disorder or conditions is the transrectal punch biopsy. However, main disadvantage of this type of diagnosis is the quite painful procedure, which additionally carries risk for the patient.

The present invention relates to a method for differential diagnosis of BPH versus PCA. The method is based on determining the level of the expression of the piRNA hsa-piR-018849 alone or in combination with other small RNAs from urine samples. Further, the present invention also applies to the monitoring of development, progress or lapse of prostate cancer as well as to a method for a stratification of a therapeutic regimen.



Commercial Opportunities

The invention is offered for licensing and the development of a test kit for the differential diagnosing of BPH versus PCA.

Current Status

The invention has been tested on 15 patients with BPH versus 18 patients with PCA and validated in a further study on each ten patients with BPH and PCA, respectively.

Competitive Advantages

- Liquid biopsy
- Non-invasive

Technology Readiness Level

1 2 3 4 5 6 7 8 9

Technology validated in relevant environment

Industries

- Diagnostic Companies

Ref. No.

5815

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Relevant Publications

Markert, L., Holdmann, J., *et al*. `Small RNAs as biomarkers to differentiate benign and malign prostate diseases´, *PLoS ONE* 2021, 10.1371/journal.pone.0247930, (accepted for publication).

An invention of the Witten/Herdecke University.

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