Medical Xpress

New marker offers hope for more reliable detection of prostate cancer

May 9 2011

A new, promising marker for diagnosing prostate cancer has been discovered by Swedish researchers with the aid of a unique method developed at the Department of Immunology, Genetics and Pathology. The study, being published this week in the journal *Proceedings of the National Academy of Sciences*, *PNAS*, can lead to more reliable diagnoses and fewer unnecessary operations.

The PSA marker used for diagnosing prostate cancer today has been criticized for false positive responses, leading to unnecessary operations. There is therefore great interest in finding new and better biomarkers.

"In the limited patient material examined in our study, blood levels of so-called prostasomes seem to correlate more closely with the severity of the disease than do PSA levels," says Masood Kamali-Moghaddam, a scientist in Professor Ulf Landegren's research team at the Department of Immunology, Genetics, and Pathology.

The team has previously developed a uniquely specific and sensitive method, called proximity ligation, for effective determination of proteins, and the method has now been adapted for detecting prostasomes.

One of the co-authors of the present study, Professor Gunnar Ronquist, showed 30 years ago that prostate cells pump out large quantities of a tiny membrane-coated particle in semen, which he named prostasomes. The hypothesis is that, in cancer, rather than winding up in semen,

prostasomes are pumped out into the surrounding cancer tissue in invasive cancer. Therefore, prostasomes could be expected to occur at elevated levels in blood in cases of prostate cancer.

It has not been possible earlier to detect prostasomes in blood, but the researchers devised a unique test that requires several different antibodies to simultaneously recognize proteins on the surface of the prostasomes, and this allowed them to detect elevated levels of prostasomes in the blood of patients with prostate cancer.

"We are hopeful that this type of marker will prove valuable not only for prostate cancer but also in several other common tumor types," says Masood Kamali- Moghaddam.

Provided by Uppsala University

Citation: New marker offers hope for more reliable detection of prostate cancer (2011, May 9) retrieved 26 April 2024 from
https://medicalxpress.com/news/2011-05-marker-reliable-prostate-cancer.html