

Team finds biological indicator of aggressive, recurrent forms of prostate cancer

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(Medical Xpress)—In a study to decipher clues about how prostate cancer cells grow and become more aggressive, Johns Hopkins urologists have found that reduction of a specific protein is correlated with the aggressiveness of prostate cancer, acting as a red flag to indicate an increased risk of cancer recurrence. Their findings are reported online in the *Proceedings of the National Academy of Sciences* on Aug. 27, 2012.

The team focused on a gene called SPARCL1, which appears to be critically important for <u>cell migration</u> during prostate development in the embryo and apparently becomes active again during cancer progression. Normally, both benign and malignant <u>prostate cancer cells</u> express high levels of SPARCL1, and reduce these levels when they want to migrate. The team correlated this reduction or "down regulation" of SPARCL1 with aggressiveness of prostate cancer.

"Our findings should allow physicians to not only pinpoint those patients whose cancers are destined to return after surgery, but could also reveal a potential new option for treatment," says Edward Schaeffer, M.D., Ph.D., an associate professor of urology, oncology and pathology at the Johns Hopkins University School of Medicine and co-director of the Johns Hopkins Prostate Cancer Multidisciplinary Clinic.

In their study, Schaeffer and lead investigator Paula Hurley, Ph.D., also found that SPARCL1 seems to play a role in predicting <u>tumor</u> <u>recurrence</u> in a number of other diseases including bladder, breast, colon, rectum, tongue, lung, skin and <u>ovarian cancers</u>.



The team is now working to decipher the specific mechanism that controls the gene in hopes of developing a treatment that can reset SPARCL1 to normal levels and potentially prevent a patient's cancer from recurring. Hurley is currently investigating novel genes that are not only prognostic of lethal prostate cancer but also contribute to <u>prostate</u> <u>cancer progression</u> to metastasis.

According to the <u>American Cancer Society</u>, about 240,000 men in the United States are expected to be diagnosed with prostate cancer this year; the majority are over age 65. The disease is the second leading cause of death among U.S. men. An estimated 28,000 men in the U.S. will die of prostate cancer this year.

"While many of our patients are initially cured with surgery, some inexplicably have their cancers return," says Schaeffer. "We are working to identify patients at higher risk of recurrence and our ultimate goal is to develop new treatments that would prevent the return of the cancer."

Provided by Johns Hopkins University School of Medicine

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