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News Release

USU's Center for Prostate Disease Research Reports New Prognostic Utility of *PCA3* Molecular Urine Test

BETHESDA, Md. — In a recent report, the collaborative research team from the Center for Prostate Disease Research at the Uniformed Services University of the Health Sciences (USU) and Walter Reed Army Medical Center (WRAMC) and Gen-Probe Inc., San Diego, Calif., showed a new promising prognostic utility of the urine *PCA3* test.

The study was co-led by Drs. David G. McLeod and Shiv Srivastava from CPDR and Drs. Jack Groskopf and Harry Rittenhouse from Gen-Probe. *PCA3* is a prostate specific mRNA that is over-expressed in most prostate cancers and has very high tumor cell specificity. *PCA3* does not code for a protein, but can be amplified and quantified from whole urine after digital rectal exam (DRE). While urine based *PCA3* assays show promise in predicting biopsy results, limited data are available to address its prognostic value. The research shows that the *PCA3* score in the post-DRE urine of prostate cancer patients is a strong independent predictor of extracapsular extension (ECE), and functions synergistically with other clinical information. Remarkably, when *PCA3* score was combined with pre-operative PSA and biopsy Gleason score, the area under the ROC curve for prediction of ECE approximated 90 percent. This study confirms and expands on findings from a recent report in the *Journal of Urology* showing that *PCA3* score correlates with tumor volume and pathologic Gleason score. The *PCA3* urine test therefore has potential to provide valuable prognostic information, and may help to determine which patients are candidates for active surveillance versus more aggressive treatment. Further studies addressing the value of this assay in various populations are presently underway.

A collaborative partnership between CPDR in the Department of Surgery at USU, Gen-Probe, and representatives of The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc. was launched in early 2006 to develop a new diagnostic test for prostate cancer. Gen-Probe has been leading the development and use of urine *PCA3* assay to improve prostate cancer diagnosis. The CPDR team has been credited with the discovery of novel prostate cancer specific gene expression alterations such as *PCGEM1*, *PSGR* and *ERG* and evaluation of these genes in diagnosis or prognosis. The CPDR group had earlier defined a prostate cancer gene panel of three genes (*ERG*, *PCA3* and *AMACR*) with potential in prostate cancer diagnosis.

Learning to Care for Those in Harm's Way

The Uniformed Services University is located on the grounds of Bethesda's National Naval Medical Center and across from the National Institutes of Health. It is the nation's federal school of medicine and graduate school of nursing. The university educates health care professionals dedicated to career service in the Department of Defense and the U.S. Public Health Service.

Students are active-duty uniformed officers in the Army, Navy, Air Force and Public Health Service who are being educated to deal with wartime casualties, natural disasters, emerging infectious diseases, and other public health emergencies. Of the university's more than 4,200 physician alumni, the vast majority serve on active duty and are supporting operations in Iraq, Afghanistan, and elsewhere, offering their leadership and expertise.

For more information, contact the Office of External Affairs at 301-295-1219.

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