

# M. D. Anderson Cancer Center

Early Detection of Urinary Bladder Cancer

## Objective

Develop novel biomarkers and diagnostic strategies for the early detection of occult urinary bladder neoplasia and its progression from intraurothelial preneoplastic conditions to invasive cancer.

## Program Description

A multidisciplinary group focused on discovery and development of new markers for early detection of bladder cancer based on identification of molecular and epigenetic alterations in bladder cancer.

## Specific Aims

- Perform functional analyses and assessment of identified putative "forerunner genes" (ITM2B, P2RY5, and CHC1L) located contiguously to RBI as novel early detection biomarkers.
- Characterize other predicted forerunner gene on chromosomes 17p13, and 5q22-23 and assess them as potential biomarkers for bladder cancer detection.
- Investigate the contribution of genetic and epigenetic mechanisms in the functional inactivation of each of the genes to elucidate a comprehensive view of the role of forerunner genes in the malignant transformation process as potential biomarkers.
- STK15/BTAWAurora-A and its interacting genes as biomarkers for bladder cancer.
- Assemble a comprehensive panel of biomarkers based on STK15/BTAWAurora-A, and similar genes associated with mitotic checkpoints, the forerunner genes (approximately 15 markers) and test their utility in early detection of bladder cancer.

## Contact Information

**Bodgan Czerniak, MD, Ph.D.**

> University of Texas M.D. Anderson Cancer Center

Dept. of Pathology Box 085

> 1515 Holcombe Blvd.

Houston, TX 77030

>

Phone: (713) 794-1025

> Fax: (713) 792-4049

Email: bczernia@mdanderson.org