Invention Available for Licensing   *Life Sciences*

Title:	*Urinary RNA Signatures in Renal Cell Carcinoma*
	UMB17-05
Inventors:	*Jill Macoska, Ph.D. et al.*

Applications:
- Detection or diagnosis of renal cell carcinoma
- Early determination of likelihood of renal cell cancer recurrence

Benefits:
- Improved, early determination of likelihood of renal cell cancer recurrence
- Inexpensive, easy to use diagnostic test based on RNA signature analysis
- Utilizes non-invasively collected urine biospecimen

Technology Description:

Kidney cancer will be newly diagnosed in 64,000 American men and women in 2017 and will be the cause of death of 14,000 people. The death rate from renal cancer (20%) is higher than that for prostate or breast cancers, yet far fewer resources are available to improve the diagnosis and treatment of renal cancer. It has been shown that recurrence of RCC within 12 months of nephrectomy is associated with a greatly reduced cancer-specific survival rate, but unlike other tumor types like breast cancer, the relative risk for recurrence of kidney cancers cannot easily be prognostically assessed. Currently recommended methods for tracking recurrence include CT or MRI of the abdomen, and although there have been previous reports of biomarkers for RCC, these biomarkers cannot be utilized pre-nephrectomy in the absence of percutaneous needle biopsy.

The limitations of existing methods can be overcome with liquid biopsies, with urine being the one that most closely approximates the kidney both physically and metabolically. Using urine specimens from 51 RCC patients, the inventors have identified a distinct urinary transcript signature present in urine at the time of nephrectomy. A panel of 5 specific RNA transcripts from within a 20-transcript signature was shown to be able to distinguish between patients with non-recurrent or recurrent disease even better than through determination of tumor stage or grade.

Patent Status:

UMass Boston has filed a U.S. provisional patent application on this invention.
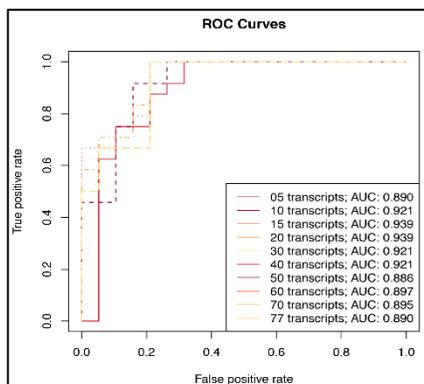
The Urinary Molecular Signature successfully distinguishes between recurrent (metastatic) and non-recurrent tumors >89% of the time.

For more information:

David J. Glass, Ph.D.
University of Massachusetts Boston
Office: 617-287-5710
Cell: 617-653-9945
david.glass@umb.edu