DEVELOPMENTAL VALIDATION OF RSID™-URINE: A NEW LATERAL FLOW IMMUNOCHROMATOGRAPHIC STRIP TEST FOR THE FORENSIC DETECTION OF HUMAN URINE.

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The forensic identification of urine presents several interesting problems and issues. To date, the forensic identification of urine has relied on the detection of two small molecular metabolites (creatinine and urea), that while easy to assay, have little or no specificity for this body fluid, and have little or no species specificity. In addition the concentration of these molecules in urine varies widely with age, hydration, diet or disease state. Taken together, these factors make it challenging to properly identify this body fluid such the data would withstand scrutiny or challenge.

Here we describe the development and testing of a lateral flow immunochromatographic strip test for the detection of human urine using Tamm-Horsfall protein as the bio-marker. This protein is secreted by the renal tubules and is confined to the kidney and urine. **RSID™-Urine** detects this protein using pooled rabbit poly-clonal antibodies absorbed to latex beads such that the Test line on the strip test will turn blue with a positive result.

Stated test sensitivity of ten microliters (10 □L) is partly due to the large individual variation in secreted Tamm-Horsfall protein from person to person, and from day to day. Efficient extraction from swabs and a variety of fabrics using the supplied extraction buffer in the kit has been demonstrated. No cross reaction with human body fluids (blood, saliva, or semen) or with the urine of typical companion animals is observed. We are seeking additional exotic animal species to better document specificity of the test. Commercial release of RSID™-Urine is anticipated for Q4, 2009.