



Innovations—Rapid Test for West Nile Virus in Mosquito Vectors

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A rapid immunochromatographic field assay for West Nile Virus (WNV) in vector mosquitoes has been developed and is presently commercially available. Medical Analysis Systems (MASTM), Inc. of Camarillo, California, has developed, evaluated, and now markets the monoclonal VecTestTM for detection of WNV antigen in *Culex* mosquitoes.

The VecTestTM West Nile Virus Antigen Assay is a rapid-wicking assay that identifies the presence or absence of viral antigen specific to WNV in infected mosquitoes. Rapid results, ambient storage, and no required or specialized equipment are the major advantages of the test over the ELISA. While growth of the virus in culture or detection by PCR-based molecular methods remains the standard for virus identification, the availability of a rapid, stable, sensitive, and specific diagnostic tool makes surveillance more expedient and cost-effective.

The use of the test kit appears extremely easy. First, up to 50 female mosquitoes are placed into the plastic culture tube provided in the kit, to which are also added 2.5 ml grinding solution and four copper-coated BBs. The capped tube is then vortexed for 1 minute at high speed or until the mosquito pool is homogenized into a slurry. Next, 250 μ L of mosquito homogenate is transferred to a conical tube, also provided in the kit. The tube is positioned in a stand, and a test strip is added, with the indicated arrows on the strip facing

down. After 15 minutes, the test strip is compared to the pictorial examples provided in the test kit. Results are interpreted as negative, WNV positive, or invalid.

In speaking with the company's technical director, I was informed that the test kit was recently evaluated in collaboration with the CDC, using samples from the 1999 New York City outbreak, and found to be specific for WNV detection with no false positives. I was told that the publication of those results would be forthcoming, and also that Fisher Scientific would soon be the major supplier.

The value, of course, of such a rapid assay is its aid in field epidemiology studies, particularly where time-sensitive decisions must be made to implement targeted vector control measures.

Currently, the kit comes equipped with materials necessary to make 50 determinations, at a cost of approximately \$10.00 per test. Information on the VecTestTM West Nile Virus Antigen Assay can be found on the MASTM web site: www.mas-inc.com, as can information on the company's VecTestTM Malaria Panel Assay for detection of *Plasmodium* parasites in vectoring mosquitoes.

I look forward to reviewing published data on the WNV VecTestTM and hopefully reporting back to you with updated developments, as well as information on related products, such as the company's Dengue Panel Assay, currently under development.