

## INTERPRETATION INFORMATION SHEET

### West Nile Virus Assay

Creative Testing Solutions screen blood donations for West Nile Virus (WNV). This testing uses Transcription Mediated Amplification (TMA) nucleic acid amplification testing (NAT).

NAT is performed by first pooling samples from multiple donors as prescribed by the manufacturer's instructions for use, then testing the pool for the presence of viral nucleic acid. If the pool tests reactive, the individual donation samples in the pool are individually tested (IDS) to identify the reactive donation. WNV NAT-reactive donors are deferred from donating blood for a minimum of 120 days after the WNV NAT-reactive donation/sample.

Additional testing, Enzyme Immunoassay (EIA) for IgM and IgG antibodies, is performed on the index donation to get a more complete picture of the meaning of the initial NAT-reactive test result **when the WNV NAT retest (2<sup>nd</sup> WNV NAT) is nonreactive**. If a donor has had no symptoms resulting from WNV infection, as is true for most individuals, there should be no medical concern regarding a positive WNV NAT result. In all cases, test results are provided to the donor.

These tests work together to indicate the likely medical status of the donor; the most likely scenarios are described in the table below:

WNV NAT (TMA)	Retest WNV NAT (TMA)	Anti-WNV IgM (EIA)	Anti-WNV IgG (EIA)	Most likely interpretation
Reactive	Reactive	NA	NA	<ul style="list-style-type: none"> <li>Active WNV infection at time of donation</li> </ul>
Reactive	Negative	Negative	Negative	<ul style="list-style-type: none"> <li>False positive result due to TMA assay non-specificity</li> <li>Very rarely this result could occur in an infected donor with very low level viremia detected by IDT and not enough time elapsed for IgM to develop</li> </ul>
		Negative	Positive	<ul style="list-style-type: none"> <li>False positive result due to TMA assay non-specificity or sample contamination, plus concurrent non-specific IgG due to past infection with cross reactive flavivirus</li> <li>Remote possibility of WNV infection at time of donation with very low level viremia prior to IgM seroconversion, with IgG due to either past infection by unrelated flavivirus or, less likely, past WNV infection (reinfection)</li> </ul>
		Positive	Positive	<ul style="list-style-type: none"> <li>Active WNV infection at time of donation (full seroconversion with low-level persistent viremia)</li> </ul>

Additional information on WNV infection is available at the CDC website:

<http://www.cdc.gov/ncidod/dvbid/westnile/index.htm>

### Revision History

Revision	Implemented	Reason
Rev 2	12/17/2018	CTS Algorithm Modification
Initial Release	05/01/2013	Revision History added