



IDAHO DEPARTMENT OF HEALTH & WELFARE
DIVISION OF PUBLIC HEALTH

Test Title	West Nile Virus, IgG or IgM Methodology: EIA
Specimen Requirements	<ol style="list-style-type: none">1. Specimen type(s): Serum (0.5 mL)2. Rejection criteria: hyper-lipemic, heat inactivated, hemolyzed, icteric or bacterial contamination of serum; avoid multiple freeze/thaw cycles
Sampling Materials	<ol style="list-style-type: none">1. Sample container: Blood tube, screw cap vial
Procedural Notes	<ol style="list-style-type: none">1. Clinical Test Request Form2. CPT Code: 86788 (IgM), 86789 (IgG)
Shipping Instructions	<ol style="list-style-type: none">1. Temperature/preservative instructions: refrigerated2. Package according to Biological Substance, Category B, shipping guidelines.3. Ship to: Idaho Bureau of Laboratories ATTENTION: Virology Laboratory 2220 Old Penitentiary Rd Boise, ID 83712
Reporting and Turnaround Time (TAT)	<ol style="list-style-type: none">1. TAT: 1-3 working days of specimen receipt2. This disease must be reported to your local health district or to the state Bureau of Communicable Disease Prevention according to the rules and regulations governing Idaho reportable diseases (IDAPA 16.02.10).3. Reference range: N/A

West Nile Virus Interpretation of Test Results

Caution: IgG assay cross-reactivity has been noted with some specimens containing antibody to cytomegalovirus (CMV) and bunyaviruses, e.g., LaCrosse virus.

Caution: IgM assay cross-reactivity has been noted with some West Nile IgM assays testing specimens of children containing antibody to enteroviruses.

SERUM

IgM antibody in serum is usually detectable by 8 days post infection, and IgG antibody by 3 weeks post infection.

IgM Result	IgG Result	Combined Interpretation (Both IgM & IgG Results)
POS	POS	Presume the patient was recently infected with WNV. The presence of IgM antibodies is presumptive evidence that the patient was recently infected with West Nile virus or another flavivirus. However, IgM anti-WNV has been shown to persist for ≥ 500 days.
	NEG	Same as above.
NEG	POS	Presume the patient was previously infected with (or exposed to) WNV. The presence of IgG antibodies without IgM antibodies is presumptive evidence that the patient was infected with (or exposed to) West Nile virus or another flavivirus at a previous time.
	NEG	Presume the patient has not been infected with (or exposed to) WNV. The absence of IgM and IgG antibodies is presumptive evidence that the patient has not been recently infected with (or exposed to) West Nile virus or another flavivirus.

Positive results are known to occur with persons vaccinated for flaviviruses (e.g., yellow fever, Japanese encephalitis and dengue), with persons infected with other flaviviruses, and with persons previously infected with WNV.

Equivocal: An equivocal test result suggests a questionable presence of WNV IgM/IgG antibody. Repeat testing using a different method, or the patient may be re-drawn two or more weeks later and re-tested with this assay.

CSF

IgM antibody is detectable in CSF in most (99%) patients by the onset of symptoms, but is relatively short-lived in CSF compared with serum.

Detection of IgM in CSF confirms recent infection with WNV. Infection cannot be definitively ruled out if IgM is not detected.

IgG antibody in CSF often does not reach detectable levels and is therefore not a sensitive indicator of infection.