Viral Encephalitis Testing available from URMC Virology Lab

The New York State Department of Health, Wadsworth Laboratory in Albany offers Viral Encephalitis testing on CSF and serum samples. Testing on CSF is ordered under ENCP (Encephalitis PCR Panel) and serum under ENCAB (Encephalitis Antibody Panel). See below for detailed information about the tests, including **restrictions** and **necessary paperwork**.

Testing on CSF includes real-time PCR assays for:

- Adenovirus DNA
- Cytomegalovirus DNA
- Enterovirus RNA
- Epstein-Barr virus DNA
- Herpes simplex virus 1 DNA
- Herpes simplex virus 2 DNA
- Human herpes virus 6 DNA
- Varicella-zoster virus DNA
- Eastern equine encephalitis virus RNA (RT-PCR)*
- Saint Louis encephalitis virus RNA (RT-PCR)*
- West Nile virus RNA (RT-PCR)*
- Powassan virus RNA (RT-PCR)*
- [West Nile IgM antibody by ELISA on CSF is also included.]

*Tests for mosquito-borne diseases are not performed during the winter months.

Typical turnaround time (TAT) for this panel is 7 – 14 days (average 10) and is performed only for CSF specimens collected from **hospitalized** patients with a current diagnosis of **viral encephalitis,** defined as temperature 100.4˚F, altered mental status, *and* abnormal CSF. CSF submitted on patients no longer hospitalized or with a current diagnosis of viral meningitis will be tested only for West Nile Virus antibody by ELISA. Specimen volume required is 1.0 ml to perform these tests.

If you require a more timely result, **please contact the Virology Lab at 275-7801 (8 am - 4:30 pm). A Meningitis/Encephalitis PCR Panel may be ordered with an 8 hour TAT and performed in-house. A minimum 1 ml of CSF is required.**

- Cytomegalovirus PCR
- Enterovirus RNA PCR
- Herpes simplex virus 1 and 2 DNA PCR
- Human herpes virus 6 DNA PCR
- Parechovirus PCR
- Varicella zoster DNA PCR
- Escherichia coli
- Haemophilus influenza
- Listeria monocytogenes
- Neisseria meningitides
- Streptococcus agalactiae
- Streptococcus pneumoniae

The NY State Lab requires that 2 forms (*Infectious Diseases Requisition* and *New York State Department of Health Viral Encephalitis/Meningitis Case Report Form*) be completed and submitted in order for Encephalitis testing to be performed. Please complete both forms and fax to 276-0301) as soon as possible. Note that onset date is required by NY State.

If forms are not received by the Virology Lab within one week of test request, the test will be cancelled.

PLEASE NOTE:
If less than 1.0 ml CSF is submitted on patients with encephalitis, the quantity will not be sufficient to perform both West Nile Virus (WNV) ELISA and PCR panel testing. Please indicate on the *Case Report Form* if ELISA or PCR testing is most appropriate for your patient, using these guidelines: ELISA is more sensitive than PCR for WNV testing, and should be considered when there is a stronger suspicion of WNV than other viruses. PCR is less sensitive for WNV, but can detect a broader range of viruses, and should be considered if viruses other than WNV are suspected.

Testing on SERUM samples includes the following antibody tests: WNV IgM antibodies by ELISA, WNV and Powassan polyvalent antibodies by MIA, Arboviral (Eastern Equine Encephalitis, Western Equine Encephalitis, California serogroup, St. Louis Encephalitis) IgG antibodies by IFA.

New York State Department of Health
Wadsworth Center
Empire State Plaza
PO Box 509, Albany, NY 12201-0509

Infectious Diseases Requisition

NYS Accession Number _____

Date received ____/____/____

Shipping address: www.wadsworth.org/wcinfo.htm

Telephone: (518) 474-4177

Patient Demographics

*denotes required information

Last Name * | First Name * | MI | DOB * (/ /) | ☐ Male ☐ Female Sex

Street Address | City | State | Zip Code

NYS County of Residence * | NYS DOH Outbreak Number | CDESS Case Number | Submitter's Reference Number

Submitter (Laboratory report will be sent to)

*denotes required information

Name and Address *

Name

Address

City State Zip

Laboratory PFI 8305

Contact Person _____

Telephone Number (____) ____ - ____ ext. ____

Specimen Information

*denotes required information

Specimen is: ☐ Isolate ☐ Primary Specimen ☐ Autopsy Specimen

Collection Date * ____/____/____ (MM / DD / YYYY)

Source / Specimen Type * _____

Time Collected (if applicable for test) ____:____ (HH : MM)

Laboratory Examination Requested

www.wadsworth.org/IDtesting

☐ **Bacterial** ☐ **Fungal** ☐ **Mycobacterial** ☐ **Parasitic** ☐ **Serology** ☐ **Viral**

Suspected Organism / Agent _____

☐ **Identification / Confirmation**

☐ **TB Fast Track** www.wadsworth.org/mycobac/fasttrack.htm

☐ **Viral Encephalitis Panel** www.wadsworth.org/divisions/infdis/enceph/form.htm

☐ **Susceptibility (specify antimicrobial(s))** _____

☐ **Serology (specify test and define onset date)** _____

☐ **Other (specify)** _____

Submitting lab findings: Smear/Stain/Other results _____ Comments _____

Specimen submitted on/in: Media _____ Preservative _____ Tissue cell line _____

Relevant Exposure: ☐ Contact known case ☐ Food/water ☐ Nosocomial

☐ Travel _____ (Location & Dates) ☐ Animal _____ (Type) ☐ Arthropod _____ (Type)

Clinical History

Name of patient's healthcare provider | (____) ____ - ____ ext. ____ (Telephone Number)

Diagnosis: _____ Hospitalized? ☐ Yes ☐ No ☐ Unknown If hospitalized, hospital name: _____

Pregnant (trimester): _____ Symptoms: ☐ Acute ☐ Chronic ☐ Other _____ Onset of symptoms: ____/____/____ (MM / DD / YYYY)

Fever: max _____ duration _____ CSF: Glu _____ Prot _____ RBC _____ WBC _____

Relevant Treatment: _____ Date ____/____/____ Relevant Immunization: _____ Date ____/____/____

Symptoms/Clinical Epidemiology (check all that apply):

Central Nervous System: ☐ Altered Mental Status ☐ Coma ☐ Encephalitis ☐ Headache ☐ Meningitis ☐ Paralysis ☐ Seizures

Gastrointestinal: ☐ Diarrhea ☐ Blood/Mucus ☐ Nausea ☐ Vomiting

Respiratory: ☐ Bronchitis ☐ Bronchiolitis ☐ Cough ☐ Pneumonia ☐ Upper Respiratory Infection

Skin/hair/nails: ☐ Hemorrhagic ☐ Maculopapular Rash ☐ Petechial Rash ☐ Vesicular

Cardiovascular: ☐ Endocarditis ☐ Myocarditis ☐ Pericarditis

Miscellaneous: ☐ Arthralgia ☐ Conjunctivitis ☐ Cystitis ☐ Hepatitis ☐ Hepatomegaly ☐ Immunocompromised ☐ Jaundice ☐ Keratitis ☐ Lymphadenopathy ☐ Malaise ☐ Myalgia ☐ Pleurodynia ☐ Splenomegaly ☐ Ulcer(s) ☐ Urethritis

Other Symptoms: _____

Non-Human Samples

New York State Department of Health
Wadsworth Center
Empire State Plaza
PO Box 509, Albany, NY 12201-0509

NYS Accession Number _____

Date received ____/____/____

Shipping address: www.wadsworth.org/wcinfo.htm

Telephone: (518) 474-4177

Submitter (test ordered by)

*denotes required information

Name and Address *

Name

Address

City State Zip

Contact Person _____

Telephone Number (____) ____- ____ ext. ____

Sample Information

*denotes required information

Collection Date * ____/____/____ (MM / DD / YYYY)

Time Collected (if applicable for test) ____:____ (HH : MM)

NYSDOH Outbreak Number _____

Laboratory Examination Requested

☐ Bacterial ☐ Fungal ☐ Mycobacterial ☐ Parasitic ☐ Serology ☐ Viral

Suspected Organism / Agent _____

Animal

☐ Domestic ☐ Wild

☐ Avian ☐ Mammal ☐ Reptile ☐ Other

Common Name _____

Sample Source _____

Submitter Sample Number _____

If domestic, name of owner and animal; if wild, specify collection site: _____

Owner/Site _____ Animal _____

Address _____ City _____ State _____ NYS County _____

Comments _____

Food

Brand Name _____ Lot Number _____ USDA Number _____

Sample description _____

Place collected _____

Street _____ City _____ State _____ NYS County _____

Comments _____

Environmental

Collection Site or Facility Name _____

Source description _____

Street _____ City _____ State _____ NYS County _____

Describe below samples taken; use separate sheets if necessary.

Sample type (Swab, etc.)	Identifier (Room number, etc.)	Sample type (Swab, etc.)	Identifier (Room number, etc.)

Comments _____

NEW YORK STATE DEPARTMENT OF HEALTH Viral Encephalitis/Meningitis Case Report Form

Suspect encephalitis/meningitis cases are reportable diseases.
Please fax a completed copy of this form to your Local County Health Department.

This form, including the full Viral Encephalitis/Meningitis History Form MUST be completed and sent with clinical specimen(s).

Patient Information

Last Name_____ First Name_____ Date of Birth__ /__ /__

Please complete this section if CSF is being submitted:

1. Does the patient have **encephalitis** (defined as temperature >100.4^{O}F, *and* altered mental status, *and* abnormal CSF)?
__ Yes → Go to question 2.
__ No → Stop here. CSF will be tested by ELISA for WNV IgM antibodies. CSF will *not* be tested by PCR for the viral encephalitis panel.

2. Is the patient **hospitalized**?
__ Yes → Go to question 3.
__ No → Stop here. CSF will be tested by ELISA for WNV IgM antibodies. CSF will *not* be tested by PCR for the viral encephalitis panel.

3. Is there at **least 1.0 ml of CSF** available for testing?
__ Yes → CSF will be tested by ELISA for WNV IgM antibodies *and* by PCR for the viral encephalitis panel.
__ No → There is not enough CSF to conduct *both* ELISA and PCR testing. Please indicate your preference for testing (check only **one**):
___Test by ELISA for WNV antibodies.
___Test by PCR for the viral encephalitis panel.

Please complete this section if SERUM is being submitted:

1. Please indicate if this is an acute or convalescent specimen:
__ Acute → Serum will be tested for:
- WNV IgM antibodies by ELISA.
- WNV polyvalent antibodies by MIA.
- Arboviral IgG antibodies by IFA.

__ Convalescent → Serum collected at least three weeks after the acute will be tested for:
- WNV IgM antibodies by ELISA on paired sera.
- WNV polyvalent antibodies by MIA on paired sera.
- Arboviral IgG antibodies by IFA on paired sera, if acute was reactive. (If acute specimen was negative, it will not be retested with convalescent. If convalescent is reactive, the test will be repeated on paired sera. Paired sera will be sent for PRNT when at least one specimen is reactive).

WNV: West Nile Virus
PCR: Polymerase Chain Reaction
ELISA: Enzyme Immunoassay
MIA: Microsphere Immunofluorescence Assay
IFA: Immunofluorescence Assay
PRNT:Plaque Reduction Neutralization Assay

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