NJ Health
New Jersey Department of Health

NJDOH Approved Diagnostic Testing Algorithm for Individuals Suspected of Exposure to Zika Virus

To request testing, contact the NJ Communicable Disease Service at 609-826-5964 Monday through Friday, 8AM – 5PM;
Beginning 7/20/16 request testing through the local health department (LHD) where the patient resides. http://www.localhealth.nj.gov

Blood and urine collected 0-14 d post exposure/onset of symptoms (CSF by request)

Trioplex rt RT-PCR
Ordered (M-F)
SERUM: 0-7 days
URINE: 0-14 days
CSF: when available
Post exposure or onset of symptoms

→ **TrioPlex rt RT- PCR**
Performed 2 d/wk
Zika (serum and urine)
Dengue (serum) and
Chikungunya (serum)

→ **POSITIVE for Zika Virus (serum and/or urine)**
and Positive or Negative for Dengue and Chikungunya (serum) by Trioplex rt RT-PCR
FINAL REPORT; NO FURTHER TESTING PERFORMED (PHEL TAT = 7 BUSINESS DAYS)

→ **NEGATIVE for Zika virus (serum AND urine)**
and Positive or Negative for Dengue and Chikungunya (serum) by Trioplex rt RT-PCR
REFLEX SERUM to Zika IgM MAC ELISA TEST

Blood and urine collected 14 days to 12 weeks post exposure/onset of symptoms

Zika MAC ELISA IgM
Ordered (M-F)

→ **Zika MAC ELISA IgM**
Performed (M-F)

→ **NEGATIVE for Zika Virus antibodies by MAC ELISA IgM**
FINAL REPORT; NO FURTHER TESTING PERFORMED (PHEL TAT = 10 BUSINESS DAYS)

→ *Due to serological cross-reactivity between flaviviridae, current IgM antibody assays cannot reliably distinguish between Zika and dengue viral infections*
PREGNANT Females:
PRESUMPTIVE POSITIVE, EQUIVOCAL OR INCONCLUSIVE for Zika Virus antibodies by MAC ELISA IgM
Serum for PRNT sent to NYS Wadsworth
*Note:A paired serum study for PRNT may be indicated if single PRNT is negative. **

→ *Due to serological cross-reactivity between flaviviridae, current IgM antibody assays cannot reliably distinguish between Zika and dengue viral infections*
ALL other patients:
PRESUMPTIVE POSITIVE, EQUIVOCAL OR INCONCLUSIVE for Zika Virus antibodies by MAC ELISA IgM
Collect a followup specimen 2-3 weeks post-exposure. Contact CDS for approval and submit to PHEL. Paired sera will be forwarded to NYS Wadsworth for PRNT.

Confirmatory Testing

Convalescent Serum, for IgM and Plaque Reduction Neutralization Test (PRNT)
Ordered (M-F)

→ **Serum Tested at NYS Wadsworth Laboratory for PRNT**
TAT=20 business days

SINGLE SERUM RESULTS	Zika PRNT	Dengue PRNT	INTERPRETATION
Zika IgM positive/equivocal/inconclusive and Dengue IgM Unknown	POS	NEG	Evidence of recent Zika virus infection
	NEG	POS	Evidence of recent Dengue virus infection
	POS	POS	Evidence of flavivirus infection at an undetermined time
	NEG	NEG	No evidence of recent flavivirus infection

*If a Zika PRNT performed on a single serum from a pregnant patient is NEGATIVE, results for Zika PRNT may be inconclusive - collect a second specimen for a paired serum study. Paired serum studies must be interpreted on a case by case basis.

Acronyms: NJDOH: New Jersey Department of Health, PHEL: Public Health and Environmental Laboratories, TAT: Estimated Turn around Time, rt RT-PCR: real-time reverse transcriptase polymerase chain reaction, MAC ELISA: Immunoglobulin M Antibody Capture Enzyme Linked Immunosorbent Assay, PRNT: Plaque Reduction Neutralization Test, NYS: New York State Wadsworth Laboratory