MAYO CLINIC LABORATORIES

Test Definition: CHIKG

Chikungunya IgG, Antibody, Serum

Overview

Useful For

Aiding in the diagnosis of recent infection with Chikungunya virus detecting IgG antibodies in patients with recent travel to endemic areas and a compatible clinical syndrome

Method Name

Only orderable as part of a profile. For more information see CHIKV / Chikungunya IgM and IgG, Antibody, Serum.

Enzyme-Linked Immunosorbent Assay (ELISA)

NY State Available

Yes

Specimen

Specimen Type

Serum

Specimen Required

Only orderable as part of a profile. For more information see CHIKV / Chikungunya IgM and IgG, Antibody, Serum.

Specimen Minimum Volume

0.4 mL

Reject Due To

Hemolysis	Mild OK; Gross reject
Lipemia	Mild OK; Gross reject
Icterus	Mild OK; Gross reject
Other	NA

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Serum	Refrigerated (preferred)	30 days	
	Frozen	30 days	

Clinical & Interpretive

Clinical Information

Chikungunya virus (ChikV) is a single-stranded RNA alphavirus and a member of the Togaviridae family of viruses. The name Chikungunya is derived from the language of the Makonde ethnic groups in southeast Africa and means "that which bends" or "stooped walk." This is in reference to the hunched-over appearance of infected individuals due to the characteristically painful and incapacitating arthralgia caused by the virus. ChikV is endemic throughout Africa, India, and more recently the Caribbean islands. In 2014, the first case of autochthonous or local transmission in the United States occurred in Florida.

Humans are the primary reservoir for ChikV and *Aedes* species mosquitos are the primary vectors for transmission. Unlike other mosquito-borne viruses such as West Nile virus (WNV) and Dengue, the majority of individuals who are exposed to ChikV become symptomatic, with the most severe manifestations observed at the extremes of age and in those with suppressed immunity. Once exposed to ChikV, individuals develop lasting immunity and protection from reinfection.

Prior to development of symptoms, the incubation period ranges, on average, from 3 to 7 days. Infected patients typically present with sudden onset high fever, incapacitating joint pain, and often a maculopapular rash lasting anywhere from 3 to 10 days. Notably, symptom relapse can occur in some individuals 2 to 3 months following resolution of initial symptoms. Currently, there are no licensed vaccines and treatment is strictly supportive care.

Reference Values

Only orderable as part of a profile. For more information see CHIKV / Chikungunya IgM and IgG, Antibody, Serum.

Interpretation

IgM and IgG Negative:
-No serologic evidence of exposure to Chikungunya virus. Repeat testing on a new specimen collected in 5 to 10 days is recommended if clinical suspicion persists.

IgM and IgG Positive:
-IgM and IgG antibodies to Chikungunya virus detected, suggesting recent or past infection. IgM antibodies to Chikungunya virus may remain detectable for 3 to 4 months post-infection.

IgM Positive, IgG Negative:
-IgM antibodies to Chikungunya virus detected, suggesting recent infection. Repeat testing in 5 to 10 days is recommended to demonstrate anti-Chikungunya virus IgG seroconversion to confirm current infection.

IgM Negative, IgG Positive:
-IgG antibodies to Chikungunya virus detected, suggesting past infection.

IgM and/or IgG Borderline:
-Repeat testing in 10 to 14 days is recommended.

Cautions

Specimens collected too early following infection may be negative for antibodies to Chikungunya virus. Testing of convalescent serum is recommended.

Chikungunya and Dengue viruses currently co-circulate in endemic areas and infections can present similarly in

symptomatic patients. It is therefore recommended to evaluate at-risk patients for infection with both viruses.

Clinical Reference

Pan American Health Organization. Preparedness and Response for Chikungunya virus. Introduction into the Americas. Washington, DC, PAHO 2011

Performance

Method Description

For both the Chikungunya virus IgM and IgG assays, polystyrene microwells are coated with recombinant Chikungunya antigen. Diluted serum samples and controls are incubated in the wells to allow anti-Chikungunya antibodies (if present in the sample) to react with the antigen. Nonspecific reactants are removed by washing. Next, peroxidase-conjugated antihuman antibody is added to the wells and will react with human antibodies bound to the antigen. Excess conjugate is removed by washing. Enzyme substrate and chromogen are added, and the color is allowed to develop. After adding the Stop Reagent, the resultant color change is quantified by a spectrophotometric reading of optical density (OD). Sample optical density readings are compared with reference cut-off OD readings to determine the qualitative results.(Package inserts: Anti-Chikungunya virus ELISA IgG v. 19/09/2016 and IgM v. 19/09/2016, Euroimmun Ag, Seekamp 31, 23560 Luebeck, Germany)

PDF Report

No

Day(s) Performed

Tuesday

Report Available

Same day/1 day

Specimen Retention Time

14 days

Performing Laboratory Location

Rochester

Fees & Codes

Fees

- Authorized users can sign in to Test Prices for detailed fee information.
- Clients without access to Test Prices can contact Customer Service 24 hours a day, seven days a week.
- Prospective clients should contact their Regional Manager. For assistance, contact Customer Service.

Test Classification

Test Definition: CHIKG

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This test was developed, and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the US Food and Drug Administration.

CPT Code Information

86790

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
CHIKG	Chikungunya IgG, Ab, S	88630-9

Result ID	Test Result Name	Result LOINC® Value
CHIKG	Chikungunya IgG, Ab, S	88630-9