Overview

Useful For
Rapid, sensitive, and specific identification of Mycoplasma hominis from plasma

Method Name
Real-Time Polymerase Chain Reaction (PCR) Using LightCycler and Fluorescent Resonance Energy Transfer (FRET)

NY State Available
Yes

Specimen

Specimen Type
Plasma EDTA

Specimen Required
The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by Mycoplasma hominis DNA is unlikely.

Collection Container/Tube:
Preferred: Lavender top (EDTA)
Acceptable: Royal blue top (EDTA), pink top (EDTA), or sterile vial containing EDTA-derived aliquot

Submission Container/Tube: Screw-capped, sterile container

Specimen Volume: 1 mL

Collection Instructions: Centrifuge and separate plasma within 24 hours of collection.

Specimen Minimum Volume
0.5 mL

Reject Due To
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Specimen Stability Information

<table>
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<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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<tbody>
<tr>
<td>Plasma EDTA</td>
<td>Refrigerated (preferred)</td>
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<tr>
<td></td>
<td>Frozen</td>
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</table>
Test Definition: MHPRP
Mycoplasma hominis PCR, P

Clinical and Interpretive

Clinical Information

*Mycoplasma hominis* has been associated with a number of clinically significant infections, although it is also part of the normal genital flora.

*M. hominis* may be found in the respiratory specimens and spinal fluid of neonates. Although the clinical significance of such findings is often unclear, as spontaneous clinical recovery may occur without specific treatment, in premature infants, clinical manifestations of meningoencephalitis have been reported.

*M. hominis* may play a role in some cases of pelvic inflammatory disease, usually in combination with other organisms. *M. hominis* may be isolated from amniotic fluid of women with preterm labor, premature rupture of membranes, spontaneous term labor, or chorioamnionitis; there is evidence that it may be involved in postpartum fever or fever following abortion, usually as a complication of endometritis.

*M. hominis* has rarely been associated with septic arthritis (including prosthetic joint infection), pyelonephritis, intraabdominal infection, wound infection, endocarditis, central nervous system infection (including meningoencephalitis, brain abscess, central nervous system shunt infection and subdural empyema), pneumonia, and infected pleural and pericardial effusions. Extradural infection typically occurs in those with hypogammaglobulinemia or depressed cell-mediated immunity. In lung transplant recipients in particular, *M. hominis* has been associated with pleuritis and mediastinitis. Recent evidence implicates donor transmission in some cases of *M. hominis* infection in lung transplant recipients.

Reference Values

Not applicable

Interpretation

A positive PCR result for the presence of a specific sequence found within the *Mycoplasma hominis tuf* gene indicates the presence of *M. hominis* DNA in the specimen.

A negative PCR result indicates the absence of detectable *M. hominis* DNA in the specimen, but does not rule-out infection as false-negative results may occur due to inhibition of PCR, sequence variability underlying the primers and probes, or the presence of *M. hominis* in quantities less than the limit of detection of the assay.

Cautions

Interfering substances may affect the accuracy of this assay; results should always be interpreted in conjunction with clinical and epidemiological findings.

Since *Mycoplasma hominis* may be part of the normal flora, results should be interpreted accordingly.

This test does not detect other mycoplasmas or ureaplasmas (including *Mycoplasma pneumoniae*, a common cause of community acquired pneumonia).

This test is not intended for medicolegal use.

Supportive Data

Validation included spiking studies for *Mycoplasma hominis*. Spiking studies were carried out using 30 EDTA whole
blood and plasma samples spiked with genomic DNA for *M hominis* (as well as 10 unspiked specimens). Sensitivity and specificity was 100%.

**Clinical Reference**


**Method Description**

This PCR method employs a target-specific detection system including primers, as well as fluorescent resonance energy transfer (FRET) hybridization probes designed for the *tuf* gene of *Mycoplasma hominis*. The LightCycler instrument amplifies and monitors target nucleic acid sequences by fluorescence during PCR cycling. This is an automated PCR system that can rapidly detect amplified product development. The detection of amplified products is based on the FRET principle. For FRET product detection, a hybridization probe with a donor fluorophore, fluorescein, on the 3’ end is excited by an external light source, which emits light that is absorbed by a second hybridization probe with an acceptor fluorophore, LC-Red 640, on the 5’ end. The acceptor fluorophore then emits light of a different wavelength that is measured with a signal that is proportional to the amount of specific PCR product. The process is completed in a closed-tube system.(Cunningham SA, Mandrekar JN, Rosenblatt JE, Patel R: Rapid PCR Detection of Mycoplasma hominis, Ureaplasma urealyticum, and Ureaplasma parvum. Int J Bacteriol 2013 Jan 30 doi: 10.1155/2013/168742)

**PDF Report**

No

**Day(s) and Time(s) Test Performed**

Monday through Friday

**Analytic Time**

3 days

**Maximum Laboratory Time**

4 days

**Specimen Retention Time**

7 days

**Performing Laboratory Location**

Rochester

**Fees and Codes**

Fees
Test Definition: MHPRP
Mycoplasma hominis PCR, P

- 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
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 U.S. Food and Drug Administration.

CPT Code Information
87798

LOINC® Information

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<td>Mycoplasma hominis PCR, P</td>
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