Overview

Useful For
Definitive identification of amyloid proteins

Reflex Tests

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLCPC</td>
<td>Microdissection, Laser Capture</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>MSPTC</td>
<td>Mass Spectrometry</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Testing Algorithm

In all cases with adequate tissue, an initial Congo red stain is performed before mass spectrometry testing to confirm positivity and pattern of amyloid deposition can be considered when interpreting mass spectrometry results.

In some instances, per pathologist discretion, a different initial Congo red stain may be performed using SS2PC / SpecStain, Grp II, other (Bill Only).

- If the stain is negative for amyloid, then this test will not be performed and only the SS2PC will be charged.
- If the stain is positive for amyloid, this test will be performed and the SS2PC billing charge will be credited.

A pathology consultation is typically not required. If the amyloid subtyping results do not fit the clinical findings, a PATHC / Pathology Consultation may be added if appropriate, upon client approval.

See Laboratory Approach to the Diagnosis of Amyloidosis in Special Instructions.

Special Instructions

- Laboratory Approach to the Diagnosis of Amyloidosis

Method Name
Histological Stain/Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

NY State Available
Yes

Specimen

Specimen Type
AMYLOID

Shipping Instructions
Attach the green pathology address label included in the kit to the outside of the transport container.

Necessary Information
1. Preliminary pathology report and history are required.

2. A brief explanatory note or consultative letter is also recommended.

**Specimen Required**

**Supplies:** Pathology Packaging Kit (T554)

**Specimen Type:** Formalin-fixed or B5-fixed, paraffin-embedded tissue block

**Collection Instructions:** Do not send fixed tissue slides. Testing can only be done on paraffin-embedded tissue blocks.

**Forms**

If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:

- [Cardiovascular Test Request](#) (T724)
- [Hematopathology/Cytogenetics Test Request](#) (T726)
- [Renal Diagnostics Test Request](#) (T830)

**Reject Due To**

<table>
<thead>
<tr>
<th>Fixed tissue slides</th>
<th>Wet/Frozen Tissue</th>
<th>Cytological Smears</th>
<th>Nonformalin fixed tissue</th>
<th>Nonparaffin embedded tissue</th>
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<tbody>
<tr>
<td>Reject</td>
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**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
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<tbody>
<tr>
<td>AMYLOID</td>
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<tr>
<td></td>
<td>Refrigerated</td>
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**Clinical and Interpretive**

**Clinical Information**

Amyloidosis is a group of hereditary and acquired diseases that are unified by extracellular tissue deposition of misfolded proteins resulting in end organ damage. Amyloidosis can be a systemic or localized disease. Although many cases of amyloidosis are hereditary, most are acquired as the result of an underlying monoclonal B-cell/plasma cell malignancy, as a phenomenon of aging, or as the result of long-standing chronic inflammation. Specific amyloid-related diseases are therefore associated with specific amyloid proteins. These include kappa or lambda immunoglobulin light chains (AL amyloid), transthyretin (ATTR amyloid), serum amyloid A (SAA amyloid), and other uncommon subtypes. Because treatment of amyloidosis patients differs radically for the different amyloid subtypes, it is critically important to accurately identify the proteins that constitute the amyloid deposits.

The basic diagnosis of amyloidosis is typically achieved by Congo red staining of paraffin-embedded tissue biopsy specimens obtained from diverse anatomic sites and demonstrating Congo red-positive, apple-green birefringent, amyloid deposits in the tissues. The next step is to definitively subtype the amyloid deposits. This test fulfills that
need. It relies on laser microdissection of Congo red-positive amyloid deposits followed by analysis by liquid chromatography-tandem mass spectrometry to accurately determine the identity of the proteins that constitute the amyloid.

**Interpretation**
An interpretation will be provided.

**Cautions**
No significant cautionary statements.

**Clinical Reference**


**Performance**

**Method Description**
Affected areas are removed from paraffin-embedded tissues by laser microdissection. Protein digestion is performed, followed by liquid chromatography-tandem mass spectrometry. (Unpublished Mayo method)

**PDF Report**
No

**Day(s) and Time(s) Test Performed**
Monday through Friday; Varies

**Analytic Time**
7-15 days

**Specimen Retention Time**
Until Reported

**Performing Laboratory Location**
Rochester

**Fees and 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
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
88313
82542 (if appropriate)
88380 (if appropriate)

LOINC® Information

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<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<td>Amyloid Protein ID, Par, LC MS/MS</td>
<td>In Process</td>
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<table>
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<td>71186</td>
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<td>Material Received</td>
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