Overview

Useful For
Providing information to aid in the diagnosis of medical disorders such as storage diseases, cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy (CADASIL), and primary ciliary dyskinesia

Special Instructions
- Electron Microscopy Patient Information
- Electron Microscopy Procedures of Handling Specimens for Electron Microscopy
- Pathology/Cytology Information

Method Name
Electron Microscopy

NY State Available
Yes

Specimen

Specimen Type
EM

Advisory Information
For nontumorous renal specimens, see RPCWT / Renal Pathology Consultation, Wet Tissue for Electron Microscopy.

For platelet disorders, see PTEM / Platelet Transmission Electron Microscopic Study, Whole Blood.

For muscle specimens, see MBX / Muscle Pathology Consultation.

For CADASIL (cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy) genetic testing on blood, call 800-533-1710 for options.

For cardiac biopsy disorders, see ANPAT / Anatomic Pathology Consultation, Wet Tissue

Shipping Instructions
Whole blood specimens must arrive within 48 hours of collection.

Necessary Information
Failure to supply the following documentation will result in a testing delay:

1. Completed Electron Microscopy Patient Information (T709) must be submitted with each specimen.

2. Tissue source required and reason for electron microscopy must be indicated for testing to be performed.

3. Tumor biopsies must be accompanied by a history, hematoxylin and eosin-stained slides and a paraffin block.

Specimen Required
Tumor biopsies must be accompanied by hematoxylin and eosin-stained slides and a paraffin block.

**Supplies:** Electron Microscopy Kit (T660)

**Specimen Type:** Fixed wet tissue

**Container/Tube:** Electron Microscopy Kit or leak-proof container

**Specimen Volume:** Entire specimen

**Collection Instructions:** Collect specimen according to the instructions in *Electron Microscopy Procedures of Handling Specimens for Electron Microscopy* in Special Instructions. **Do not** place on ice, dry ice, or freeze.

**Additional Information:** PATHC / Pathology Consultation may be added if deemed necessary by the reviewing pathologist.

**Alternative Specimen Type:** Whole Blood (for neurona ceroid lipofuscinosis [NCL] only)

**Note:** If test indication is for NCL, whole blood may be submitted in lieu of fixed wet tissue. This is only applicable for a presumptive diagnosis of NCL; whole blood specimens submitted for any other reason will be rejected.

**Container/Tube:** Green top (sodium heparin), or yellow top (ACD solution B)

**Specimen Volume:** 5 mL

**Collection Instructions:** Send specimen in original tube. Do not transfer blood to other containers.

**Forms**
1. *Electron Microscopy Patient Information* (T709) **is required.** See Special Instructions
3. *Pathology/Cytology Information* (T707) in Special Instructions

**Specimen Minimum Volume**

Varies

**Reject Due To**

| Muscle tissue, Fat pads | Reject |

**Specimen Stability Information**

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<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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<td>EM</td>
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Clinical and Interpretive

Clinical Information
Transmission electron microscopy (TEM) is an important diagnostic tool used in the comprehensive assessment of human disease and is most often used in conjunction with other methods such as light microscopy and immunohistopathological techniques. This fundamental technology can provide both confirmatory and diagnostic value to the pathologist and clinician.

Reference Values
An interpretive report will be provided.

Interpretation
The images and case histories are correlated and interpreted by a pathologist who is an expert in the field of the suspected diagnoses.

Results will be provided by telephone. If requested, representative images showing diagnostic features will be sent.

Cautions
Certain factors are necessary for interpretation of electron microscopic images as follows:

- Optimal fixation of viable and representative tissue is imperative.
- The tissue submitted must have been viable at the time of fixation.
- Selection of tissue representative of the lesion is essential.

Clinical Reference

Performance

Method Description
The fixed tissues received postfixed, and stained in osmium tetroxide, dehydrated, and embedded in epoxy resin. Resin blocks are trimmed and semithin (1-micron) survey sections stained with toluidine blue are viewed using a light microscope. Blocks of interest are re-trimmed and the area for observation is then ultrathin sectioned, placed on copper mesh grids and stained with lead citrate. The sections are examined with a transmission electron microscope operated at an appropriate kV. Images are digitally captured and stored electronically. (Winey M, Meehl JB, O'Toole ET, Giddings TH Jr: Conventional transmission electron microscopy. Mol Biol Cell, 2014 Feb;25(3):319-23. doi: 10.1091/mbc.E12-12-0863)

PDF Report
No

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

Analytic Time
**Test Definition: EM**
Electron Microscopy

**4 days**

**Maximum Laboratory Time**
7-10 days

**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 uses a standard method. Its performance characteristics were 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**
88348

**LOINC® Information**

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