



FIXED/FRESH MUSCLE OR NERVE BIOPSIES COLLECTION INSTRUCTIONS

Manufacturer

ARUP Laboratories

Kit/Reagent Purpose

To submit fresh muscle for light microscopy, frozen special studies, and/or electron microscopy; AND/OR to submit fixed nerve for light microscopy and electron microscopy.

Kit/Reagent Contents

- Shipping container
- Wooden tongue depressor
- Gauze, sterile 3x3
- Arctic Foil Gel Pack (**REFRIGERATE UPON ARRIVAL**)
- 2 ARUP specimen bags—ambient (green) and refrigerated (grey)
- 10% buffered formalin specimen container (light microscopy)
- 2.5% glutaraldehyde (Karnovsky's) specimen container (electron microscopy)
- Specimen transport container 90mL (for **fresh** specimen)
- ARUP specimen processing label (purple)
- FedEx prepaid priority **overnight** shipping label
- Muscle/nerve fax sheet

Other Supplies Needed

- Packing tape
- Anatomic pathology test request form. If needed, order via eSupply using ARUP Connect or by contacting ARUP Client Services at 800-522-2787.
- If **BOTH** muscle **AND** nerve specimens are submitted concurrently on the same patient, two kits are required for collection.

Specimen Requirements

Muscle biopsy: 1.5–2.5 cm length by 1.0–1.5 cm width by 0.5 cm depth minimum. Please maintain direction of muscle fibers.

Nerve biopsy: 1.5–2.0 cm length

Specimen Collection

Procure the specimens in a surgically approved manner. Do NOT use laser or cautery to obtain the specimen. Doing so can destroy muscle enzymes.

Preparation Instructions

Muscle Biopsy Specimen:

1. Divide a skeletal **muscle** biopsy into three portions. (See the illustration below.) Maintain direction of fibers.
2. Place the long narrow portion in the **formalin** specimen container.
3. Place the smallest piece in the **glutaraldehyde** specimen container.
4. Place the **formalin** AND **glutaraldehyde** specimen containers into the ARUP ambient (**green**) specimen bag.
5. The remaining fresh tissue (biggest of the three portions) will be shipped fresh. (See **Muscle Biopsy Specimen dissection** illustration below)

Formalin piece

Formalin piece	
Fresh piece (to be frozen by ARUP)	Glutaraldehyde or Karnovsky's piece

Optimal Muscle Dimensions:

Length = 1.5–2.5 cm
Width = 1.0–1.5 cm
Depth ≤ 0.5 cm

- Once you have the biopsy, again, maintain the direction of muscle fibers.
- First, cut off about 1/3 of the **width** of the biopsy and place in formalin.
- Then take one end of the remaining muscle (about 1/4) for glutaraldehyde (EM).
- The final fresh piece will be shipped on cold packs.

Nerve (Fixed) Biopsy Specimen:

1. Divide the peripheral **nerve** biopsy into two portions, roughly 1/3, 2/3.
2. Place the longer piece in the buffered **formalin** specimen container.
3. Place the shorter length in the **glutaraldehyde** or Karnovsky's specimen container.
4. Place the formalin **AND** glutaraldehyde specimen containers into the ARUP ambient (**green**) specimen bag.
5. **NO FRESH NERVE** is necessary but if there is any remaining portion, it should be shipped fresh.

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Muscle/Nerve (Fresh) Biopsy Specimen:

1. Ship the sealed kit via FedEx overnight or with your ARUP contracted courier. The specimen must be delivered to ARUP Monday through Friday, EXCLUDING HOLIDAYS.
2. Place the **fresh** tissue on a strip of thin cardboard or wooden tongue depressor.
3. Wrap the tissue and tongue depressor in a piece of gauze that has been lightly moistened (not soaked) with saline. The objective is to keep the tissue from drying out; too much saline will be absorbed by the muscle and create artifact when frozen. Wrap firmly but not so tightly that it compresses the muscle.
4. Place the fresh wrapped tissue in the 90 mL specimen transport container and tighten the cap.
5. Place the specimen transport container into the ARUP refrigerated (**grey**) specimen bag.
6. Place the ARUP refrigerated (**grey**) specimen bag into the **PREVIOUSLY REFRIGERATED** Arctic Foil Gel Pack and seal shut.

Specimen Storage/Transport

1. Make sure all vials/transport containers are labeled with the patient's full name, unique identifier, and collection date and time.
2. Place the sealed Arctic Foil Gel Pack in the bottom of the shipping container.
3. Place the ambient specimen bag on top of the Arctic Foil Gel Pack.
4. Close the foam lid of the shipping container.
5. Complete the muscle/nerve fax sheet and FAX to 801-584-5244. ***This is not necessary if you place an electronic order. For muscles, order MUS REQ, order number 2013260. For nerves, order NER REQ, order number 2013261. If same patient has both muscle and nerve biopsies done, order just MUS REQ (2013260), and the nerve will be added on once it arrives at ARUP.***
6. Placing an electronic order for comprehensive MUSCLE/NERVE biopsy work up (see above) via interface or ARUP Connect is highly encouraged as it will make the incoming specimen visible in the lab's queue and also improve turnaround time for patient results. ***If unable to order electronically, please notify lab via FAX and include an ARUP anatomic pathology test request form with the biopsy kit.***
7. If neither faxing nor electronic order is performed, please call Histology at 801-583-2787 ext. 3497 to alert the lab of specimen shipment. You may leave a voicemail at this extension. We will call back if necessary.

8. Place the muscle/nerve fax sheet if applicable and the ARUP anatomic pathology test request form on top of the foam lid.
9. Close the lid of the shipping container and insert the side "flap" into the slot of the lid.
10. Place the muscle/nerve fax sheet, and if applicable, the "ARUP Specimen Processing" label over the lid and flap.



11. Seal the kit with packing tape.
12. Ship the sealed kit via FedEx overnight or with your ARUP contracted courier. The specimen must be delivered to ARUP Monday through Friday, EXCLUDING HOLIDAYS.

If using the FedEx pre-paid shipping label, complete any missing information on the shipping label and place on the box, flush with the top of the lid, keeping the PURPLE "ARUP Specimen Processing" label **VISIBLE** and **contact your local FedEx representative at 800-463-3399 for an immediate priority pickup.**



Safety Data Sheet (SDS) if applicable

Note: Applicable SDS can be found in the eSupplyCatalog located on ARUP Connect.