



Sample Processing Information

This document describes how our samples are collected, processed, and stored, so that prospective sample users can assess whether our samples are suitable for their intended research.

General: All samples are collected at our participating enrollment sites (MS clinics located across the US), with different tubes used for different types of samples. Site personnel process the samples as indicated in the study standard operating procedures (SOPs), store them temporarily, and then ship them overnight to our sample storage vendor, SeraCare, based in Frederick MD. SeraCare then performs additional processing steps as appropriate and places the samples in long-term frozen storage.

DNA and plasma samples: Blood is drawn into lavender top EDTA tubes, inverted 8-10 times, and stored at the collection site at 4°C until shipment. Samples are shipped the same day via overnight courier to SeraCare, in a special shipping container with a cold (not frozen) ice pack. Upon arrival at SeraCare, the EDTA tubes are centrifuged. Plasma is transferred in 1.0 mL aliquots into 2.0 mL cryovials and then frozen at -80°C. The packed cells and buffy coat are then transferred to a cryovial and stored frozen until DNA extraction. DNA extraction is performed using a Gentra Autopure system. DNA is normalized to a concentration of 100 ug/ml, aliquoted, and frozen in cryovials. [Note: Prior to 2008, DNA was extracted from whole blood. Please let us know if the source of the DNA is important for your study.]

Serum samples: Blood is drawn into tiger top SST tubes, inverted 5 times, and left to sit in an upright position for 30-60 minutes to allow clotting. Tubes are centrifuged at 3,000 RPM (approximately 1000xg) for 10 minutes. Serum is then transferred in 0.5 mL aliquots into 1.0 mL cryovials using a plastic pipette. Cryovials are stored frozen at the collection site at -70 to -80°C until shipment to SeraCare. Samples are batched at least monthly and shipped frozen on dry ice using overnight delivery. Cryovials are stored frozen at SeraCare at -80°C.

RNA samples: Blood is drawn into Paxgene tubes, inverted 8-10 times, and stored at the collection site at 4°C until shipment. Samples are shipped the same day via overnight courier to SeraCare, in a special shipping container with a cold (not frozen) ice pack. At SeraCare, the Paxgene tubes are inverted again 8-10 times and then stored frozen at -80°C. [Note: Some of our early Paxgene samples were divided into two aliquots prior to freezing, but we found that dividing the samples led to unreliable results. All scientists who request RNA will receive an entire, intact Paxgene tube for each subject.]

PBMCs: Blood is drawn into CPT tubes, inverted 8-10 times, and stored upright at room temperature. Samples are shipped to SeraCare via overnight courier at ambient temperature the same day as the blood draw. The CPT tubes are centrifuged immediately upon arrival and the PBMC cells are isolated. The cells are then counted and assessed for viability. The samples are aliquoted and then cryopreserved with a Planer unit using a freezing media (1mL of media per cryovial). The PBMC samples are then stored in the vapor phase of LN2.

Please contact Hollie Schmidt (+1-781-487-0099, hollie@acceleratedcure.org) or Sara Loud (+1-781-487-0032, sloud@acceleratedcure.org) if you have any questions.