

somallogic



The SomaScan® Assay: Recommended Sample Handling and Processing for Core Sample Types

The following procedures are recommendations for the collection and preparation of samples for Research Use Only assays on the SomaScan® Platform at SomaLogic. Other methods that prevent protein denaturation may be used, but please consult with your SomaLogic representative to discuss the details prior to implementation of an alternative collection protocol.

For non-core sample types, see the Recommended Sample Handling and Processing for Non-Core Sample Types document.

General Sample Requirements

Sample handling post-receipt will be minimized by providing aliquots in tubes that are compatible with SomaLogic's tracking and automation systems. The preferred tubes are 0.5 mL screw top, 2D-barcoded, Thermo Scientific™ Matrix™ tubes (Thermo Scientific™ Catalog number: 3744). If these tubes are used, please provide two replicates of the required aliquot volume. If any other tube is being used, sample will be transferred prior to performing the SomaScan Assay. In this case, please provide the entire required sample volume in a single tube.

Recommended Blood Sample Collection Protocol

Human serum and plasma are current core sample types. EDTA is the preferred anticoagulant for plasma samples to be assayed on the SomaScan platform.

- Check the expiration date on all of the tubes. If expired, replace with new ones.
- Perform the venipuncture per institutional guidelines.
- If more than one sample type is collected, follow the collection order according to tube manufacturer's guidelines.

General Blood Sample Processing Requirements

Proper processing of the collected samples is critical. Many tubes have a minimum and maximum fill line and these requirements should be followed and no additional additives should be added to the samples. It is particularly important that time constraints are observed and that samples are not left at room

temperature longer than necessary. Samples should be processed and frozen at -80 °C within 2 hours of collection.

Note: Hemolyzed samples (pink to red in color) can confound true biomarker discovery. If available, send non-hemolyzed samples for your SomaScan study. If only hemolyzed samples are available, please contact your SomaLogic representative.

Plasma Processing

- Centrifuge plasma tubes (Citrate, Heparin or EDTA tubes) at room temperature. If within tube manufacture's specifications, spin at 2200 x g (not RPM) for 15 minutes (this speed has been chosen to attempt to remove all cellular contents and platelets from samples). Observe separation of blood cells and plasma, with plasma layer on top.
- Draw off only the plasma layer. Take care not to disturb buffy coat when aliquoting by leaving some plasma behind and avoiding the cell layer. Aliquot into appropriately labeled tubes (130 µL total sample or two 55 µL aliquots in preferred tubes).
- Aliquot samples immediately and then place aliquoted samples in a -80 °C freezer. If samples must be frozen at -20 °C rather than -80 °C, an aliquot volume of 0.5-1 mL is required.

Note: Plasma samples do not need to clot and should be centrifuged immediately after collection.

Serum Processing

- Allow serum to clot for 60-90 minutes at room temperature prior to centrifugation.
- Centrifuge serum tubes. If within tube manufacture's specifications, spin at 2200 x g (not RPM) for 15 minutes (this speed has been chosen



to attempt to remove all cellular contents and platelets from samples). Standard centrifugation of 1300 x g for 10 minutes provides comparable results. Ensure separation of blood cells and serum is observed, with serum layer on top.

- Draw off only the serum and aliquot into appropriately labeled tubes (130 μ L sample total or two 55 μ L aliquots in preferred tubes) within 30 minutes of centrifugation.
- Place aliquoted samples in a -80 $^{\circ}$ C freezer. If samples must be frozen at -20 $^{\circ}$ C rather than -80 $^{\circ}$ C, an aliquot volume of 0.5-1 mL is required.

Urine Processing

- Collect neat urine midstream catch.
- All study samples should be handled in the same way as each other (e.g. centrifuged at a given speed and time or not at all).
- The minimum volume required of urine is 550 μ L (or two 260 μ L aliquots in preferred tubes).
- Store aliquots at -80 $^{\circ}$ C immediately.

Sample Volume Requirements

Matrix	Volume
Human plasma (EDTA, citrate, CTAD, heparin; all collection tube types)	130 μ L (two 55 μ L aliquots if provided in preferred tubes)
Human serum (all collection tube types)	130 μ L (two 55 μ L aliquots if provided in preferred tubes)
Human urine (biobank)	550 μ L (two 260 μ L aliquots if provided in preferred tubes)

Non-human Samples in the SomaScan[®] platform

SOMAmer[®] reagents generated to human proteins have varying degrees of cross reactivity to non-human orthologs and therefore can be used to identify differential expression of some analytes in non-human samples. Please reach out to your SomaLogic representative for more information.

