Human Peripheral Blood Mononuclear Cell (PBMC) Isolation Frequently Asked Questions

Quality
Target cell viability ≥ 95%

Method
Density gradient centrifugation, cryopreservation , and storage in liquid nitrogen

Final Product
5-10 million cells per aliquot delivered on dry ice or via cryoshipper

How is the biospecimen sample collected?

A Sanguine phlebotomist visits the study participant's home, collects whole blood via venipuncture, and ships via overnight delivery at a specified temperature to the Sanguine laboratory for processing.

Samples are typically processed within 24 hours of initial collection

What anticoagulant(s) should I use?

Depending on the application, EDTA or sodium heparin may be the appropriate choice. Sanguine has standard processes for each and recommends:

- EDTA for genetic applications
- Sodium heparin for molecular biology and assay applications

How are the PBMCs processed?

PBMCs are isolated via density gradient centrifugation, counted, resuspended in freezing media, and aliquoted (10 million cells per mL) into cryovials.

Sanguine accommodates custom procedures and aliquots by request for additional costs.

How are the PBMC samples cryopreserved and stored?

PBMC aliquots are cryopreserved via a slow-freeze process in a -80°C controlled-rate freezer. The samples are then transferred into liquid nitrogen for long-term storage.

Sanguine can accommodate long-term storage of your samples in liquid nitrogen with 24/7 temperature monitoring and on-demand retrieval.

How do I receive them?

- PBMCs and other samples are shipped from the laboratory in accordance with your study timeline, either upon request or on a set schedule.
- PBMC samples are shipped in a scientific cool containing dry ice via a specialty courier service.

Sanguine recommends storing processed samples in our lab and then batch shipping them upon study completion to limit batch-to-batch variability and control costs.

What other samples can I procure concurrently with PBMCs?

- Since samples are collected in-home, it is cost-effective and scientifically advisable to collect additional samples simultaneously (e.g., serum/plasma, skin tapes, stool, and urine).
- Serum and/or plasma can be isolated in-home or in-lab from freshly collected whole blood via centrifugation, depending on your study goals and logistics.

Talk to our study design experts about maximizing the value of in-home collection in obtaining a systems biology and longitudinal approach to patient biology.

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