Product Information

LSM (Lymphocyte Separation Medium)

Catalogue Number: GBLSM01/01F

General Information

LSM is engineered for precise isolation of mononuclear cells, including lymphocytes and monocytes, from human peripheral blood samples. Utilizing the trusted method developed by Bøyum, this solution enables clear differentiation of cell layers through density gradient centrifugation, supporting accurate separation and optimal yield.

LSM is an iso-osmotic, low-viscosity solution with a precise density of 1.0770 ± 0.0010 g/ml. Formulated with polysucrose and diatrizoic acid dihydrate, this medium enables efficient separation of viable lymphocyte populations, providing:

- High cell viability (>90% as confirmed by trypan blue exclusion)
- Purity in mononuclear cells (95 ± 5% of cells)
- Minimal contamination with 5 ± 2% red blood cells and 3 ± 2% granulocytes

Product Specification

Appearance	:	Clear, Colorless Solution
pH	:	6.5 - 8.5
Density	:	1.07700-1.0800 g/ml at 20°C.
Storage & Shelf Life	:	Store at +2°C to +8°C tightly sealed and use within 36 months.
Shipping Conditions	:	Ambient
Endotoxin Level	:	NMT 1 EU/mL
Sterility	:	Free of bacterial and fungal contamination (14 days)

Formulation

Components	Concentration g/100ml
Ficoll	6.2
Sodium Diatrizoate	9.4

For Research Use Only

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Separation of Mononuclear cells from Whole Blood

- Prepare Centrifuge Tubes: Begin by adding 15 ml of Lymphocyte Separation Medium (density 1.077 g/ml, pre-warmed to 20°C) to a clean 50 ml centrifuge tube.
- Dilute Blood Sample : Take anticoagulated blood and gently dilute it with an equal volume of Phosphate Buffered Saline (PBS). Mix by inverting the tube gently to prevent cell damage.
- Layer Blood Sample onto Lymphocyte Separation Medium: Carefully layer 20–25 ml of the diluted blood over the Lymphocyte Separation Medium in the centrifuge tube. **Important:** Avoid mixing the blood sample with the separation medium. Maintaining this distinct layer will ensure successful separation (see Figure 1, left tube).
- Centrifugation: Place the tube in the centrifuge and spin at 800 g for 20 minutes at 18–20°C.
  Note: Ensure the centrifuge brake is off to keep the distinct layers intact.
- Identify and Collect the Mononuclear Cell Layer: Post-centrifugation, a white, cloudy layer will appear at the interphase between the plasma and the Lymphocyte Separation Medium. This layer contains the enriched mononuclear cells (70–100%).
- Transfer the Mononuclear Cell Layer: Carefully transfer the entire white interphase layer using a sterile Pasteur pipette into a new, sterile 50 ml centrifuge tube.
- Wash the Cells: Fill the tube with PBS or culture medium, then wash the cells twice by centrifuging at 300 g for 5–10 minutes each time. This washing step helps remove any remaining contaminants.
- Resuspend for Application: Finally, resuspend the cell pellet in your preferred medium. You may proceed with cell counting using standard methods to verify cell concentration and viability before continuing with further applications.

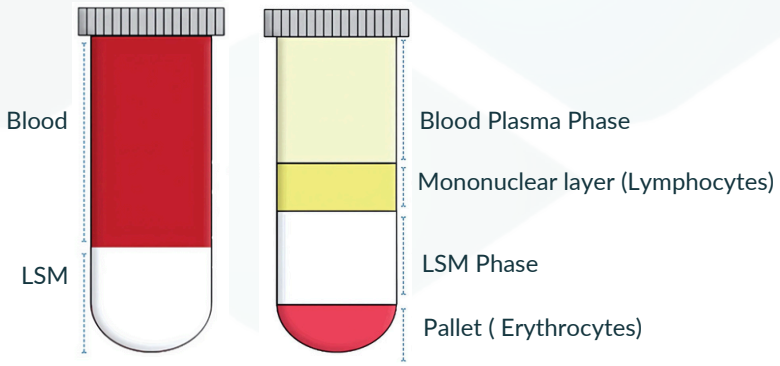

Fig. 1: Blood Separation Tube before (left) and after centrifugation (right)

Need help?

If you have any further queries, please feel free to email our cell culture specialists at info@genexisbiotech.com