Vero Cell Propagation Medium

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Protocol ID: BUF-VERO-PROP **Version:** v1.2 **Author:** Dillon Corvino **Date:** 2026-09-18

Purpose

This medium is used for routine propagation of Vero cells for LCMV focus-forming assays and other virological applications.

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Linked protocols

- `MUS-LCMV-PLA`
- `MUS-LCMV-FFA`

Working buffer composition

Final volume: **500 mL**.

Component	Amount	Final concentration / note
DMEM (high glucose, with L-glutamine, phenol red)	to 500 mL	Base medium
Heat-inactivated FCS/FBS	50 mL	10% (v/v)
2-mercaptoethanol (100x stock; see lab stock sheet for concentration)	0.5 mL	1x final (typical 50-100 uM range)

> ⚠ Warning
>
> For Vero cell culture, always use **DMEM-based medium**. Do **not** confuse this with RPMI-based media used elsewhere in the plaque/FFA protocol (e.g. for sample dilution).

Preparation

A. Preparation of stock (if applicable)

Not applicable — prepared directly as the working buffer.

B. Preparation of working buffer

1. In a sterile biosafety cabinet, add ~400 mL of DMEM to a sterile 500 mL bottle.
2. Add:
   - 50 mL heat-inactivated FCS/FBS.
   - 0.5 mL of the 100x 2-mercaptoethanol stock (check your lab stock sheet for the exact stock concentration and resulting final uM).
3. Top up with DMEM to a final volume of **500 mL**.
4. Mix gently by inversion.
5. If any component was added from a non-sterile container, sterile-filter the complete medium (0.22 um filter) into a fresh sterile bottle.
6. Label with:
   - "Vero propagation medium (DMEM + 10% FCS + 2-ME)"
   - Date of preparation
   - Initials
7. Store at **4 °C** for up to **4 weeks**, protected from light.

Storage and stability

- Store at **4 °C**, protected from light.
- Use within **4 weeks** of preparation.
- Discard medium if there is any sign of contamination (turbidity, threads, pH shift) or if it is past the defined expiry.

Use

- Warm medium to **37 °C** before use with cells.
- Discard medium if there is any sign of contamination (turbidity, threads, pH shift) or if it is past the defined expiry (4 weeks from preparation).

Reagent details

Component	Supplier	Cat#	Notes
DMEM (high glucose, with L-glutamine, phenol red)	[TBD]	[TBD]	Base medium
Heat-inactivated FCS/FBS	[TBD]	[TBD]	10% final
2-mercaptoethanol	[TBD]	[TBD]	100x stock; 1x final

Safety (brief)

- 2-mercaptoethanol is hazardous — handle with gloves and eye protection, and use a fume hood when working with concentrated stock.
- FCS/FBS is of animal origin and should be treated as a potential biohazard.
- Prepare and handle medium under aseptic conditions inside a biosafety cabinet.

Version history

Version	Date	Author	Changes
v1.0	2025-12-01	Dillon Corvino	Initial Quarto buffer document (MEM-based formulation).
v1.1	2025-12-02	Dillon Corvino	Updated to DMEM + 10% FCS + 1x P/S + 2-ME, aligned with lab protocol.
v1.2	2026-09-18	Dillon Corvino	Migrated to shared summary:/helper architecture (buffer/protocol redesign).