

# R10 Medium (RPMI + 10% FCS + Pen/Strep)

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**Buffer ID:** BUF-R10-MED-001

**Version:** v1.0

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## Purpose

R10 is complete RPMI 1640 medium supplemented with 10% heat-inactivated FCS and Penicillin/Streptomycin. It is used for PBMC washing after Ficoll separation, for quenching CellTrace dyes, and as a general-purpose lymphocyte culture medium.

## Working buffer composition

| Component               | Final concentration | Notes                 |
|-------------------------|---------------------|-----------------------|
| RPMI 1640               | —                   | Base medium           |
| Fetal calf serum        | 10% (v/v)           | Heat-inactivated      |
| Penicillin/Streptomycin | 1% (v/v)            | 100× stock → 1× final |

## Preparation

### Stock solutions required

| Reagent                 | Stock concentration | Notes                       |
|-------------------------|---------------------|-----------------------------|
| Fetal calf serum (FCS)  | —                   | Heat-inactivate if required |
| Penicillin/Streptomycin | 100×                | Add to 1× final             |
| RPMI 1640               | —                   | Sterile-filtered            |

## Preparation of 500 mL R10

1. Aliquot **450 mL** sterile RPMI 1640 into a sterile bottle.
2. Add **50 mL** FCS (10% final).
3. Add **5 mL** Penicillin/Streptomycin (100× stock) → **1% final**.
4. Gently invert to mix; **do not vortex**.
5. Label with:
  - *R10 complete medium*
  - Date of preparation
  - Expiry (4 weeks after preparation)



### Tip

Pre-warming R10 to 37 °C before use improves cell recovery following Ficoll separation or staining.

## Storage and stability

- Store at **4 °C**, protected from light.
- Use within **4 weeks** after preparation.
- Do not freeze.

## Reagent details

| Reagent          | Supplier | Cat. # | Notes                  |
|------------------|----------|--------|------------------------|
| RPMI 1640        | Various  | —      | Base medium            |
| Fetal calf serum | Various  | —      | Heat-inactivated       |
| Pen/Strep (100×) | Various  | —      | Final 1× concentration |

## Safety

- Handle medium aseptically in a biosafety cabinet.
- Dispose of contaminated or expired medium as biohazardous waste.
- Follow institutional guidelines for handling FCS-containing media.

## **Version history**

| Version | Date       | Author         | Changes                      |
|---------|------------|----------------|------------------------------|
| v1.0    | 2025-11-21 | Dillon Corvino | Initial R10 buffer document. |