

# RBC Lysis Buffer (Hybrimax / Commercial)

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**Protocol ID:** BUF-RBC-HYB-v1.0

**Version:** v1.0

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## Purpose

This buffer is used to lyse red blood cells in single-cell suspensions derived from liver (and other tissues, if applicable) while aiming to preserve leukocyte populations for downstream analysis.

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## Linked protocols

This buffer is used in:

- Mouse Liver Dissociation to Single-Cell Suspension – LIV-001 (v1.0)

- Additional protocols where RBC lysis is required.

## Composition

This protocol assumes the use of a **commercially supplied RBC lysis buffer**, such as:

- **HybriMax RBC lysis buffer** (Sigma), used at 1× working strength.

If an alternative supplier is used (e.g. BioLegend RBC Lysis Buffer), document the product and use according to manufacturer instructions, adapting incubation times as internally validated.

## Preparation

### A. From HybriMax (ready-to-use formulation)

1. Confirm whether the commercial HybriMax RBC lysis buffer is supplied as **ready-to-use (1×)** or **concentrate (e.g. 10×)**.
2. If supplied as **1× solution**:
  - Aliquot into smaller working volumes (e.g. 5–10 mL) to avoid repeated bottle opening.
  - No further dilution is required.
3. If supplied as **concentrate (e.g. 10×)**:
  - Dilute with sterile water or buffer as per manufacturer's instructions to make **1× RBC lysis solution**.
  - Mix thoroughly.
4. Label aliquots with:
  - “RBC Lysis Buffer (HybriMax)”
  - 1× or stock concentration
  - Date of preparation
  - Version (BUF-RBC-HYB-v1.0)

**i** Note

The liver protocol LIV-001 uses **0.5 mL of 1× RBC lysis buffer per sample** after Percoll enrichment, with a **7-minute** incubation at room temperature.

## Storage and stability

- Store the commercial RBC lysis buffer according to manufacturer's instructions (commonly at **2–8 °C**).
- Keep tightly closed to avoid evaporation and contamination.
- Aliquotted 1× working solution should also be stored at **2–8 °C** and used within the period recommended by the manufacturer or internal validation.
- Do not freeze unless explicitly supported by the manufacturer.

## Reagent details

Component	Supplier	Cat#	Notes
HybriMax RBC lysis buffer	[TBD]	[TBD]	Commercial RBC lysis buffer; used at 1× working concentration

(If using a different brand, add a row or update Supplier/Cat# accordingly.)

## Safety (brief)

- RBC lysis buffers typically contain detergents and may contain **sodium azide** or other toxic components.
- Handle with gloves and standard lab PPE.
- Avoid contact with eyes and skin; consult the manufacturer's safety data sheet (SDS).
- Dispose of RBC-lysis waste and contaminated consumables in accordance with local chemical and biohazard regulations.

## Version history

Version	Date	Author	Change summary
v1.0	2025-11-20	Dillon Corvino	Initial buffer definition