
Producing “Hemolyzed” Red Cells



Submitted by Natasha Leon, MT(ASCP)SBB^{CM}

Sample Description

This recipe is used to prepare samples that appear to demonstrate real hemolysis or simulated hemolysis.

Sample Objective

To create a sample that represents red cell hemolysis (eg, after a hemolytic transfusion reaction).

Ingredients

Whole blood or packed red cells

Tap water

Liquid (not gel) red food coloring

0.85% Normal saline or 6% albumin

Cook’s Tools

Test tubes

Pipettes

Segment sampling device

Method

All-Natural—“Organic” (real hemolysis with no intact red cells remaining)

1. Place 2 drops of packed red cells or whole blood into a test tube.
2. Add 2 mL of tap water to the red cells in the test tube.
3. Mix thoroughly.
4. Wait 10 seconds.
5. Mix thoroughly.



Artificial Coloring—“Simulated” (“hemolysis” with no intact red cells remaining)

1. Place 5 mL of 0.85% normal saline or 6% albumin into a test tube.
2. Add 1 drop of red food coloring.
3. Mix thoroughly.

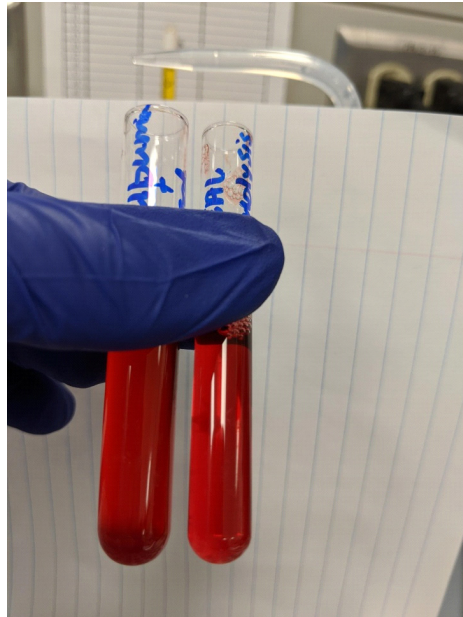
Semi-Homemade (“hemolysis” with remaining red cells)

1. Prepare a batch of “simulated” hemolysis according to the above recipe.
2. Add desired amount of packed red cells.

Cook’s Notes

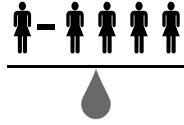
Depending on the intended use of the samples, adjust the amount, ABO group/RhD type, DAT status, extended phenotype, etc, of packed red cells mixed into the semi-homemade sample.

Taste Test Results



Comparison of semi-homemade hemolysis (left) with remaining red cells to real, all-natural “organic” hemolysis (right).

Preparing “AB Plasma”



Submitted by Phyllis Kirchner, MSTM, MT(ASCP)SH, SBB^{CM}

Sample Description

This recipe provides directions for creating a substitute (ersatz) for AB plasma.

Sample Objective

To simulate “AB plasma” to be used in sample preparation for teaching/training purposes.

Ingredients

22% Albumin

Saline

Liquid (not gel) yellow food coloring

Liquid (not gel) red food coloring

Liquid (not gel) green food coloring

Cook’s Tools

Graduated cylinders (10 mL, 20 mL, 100 mL)
Various sizes of beakers or flasks for stock solutions
Pipettes

Method

Create Hemolysis Stock Color Solution

1. Label a beaker, flask, or other suitable container “Yellow.”
 - a. Add 100 mL saline.
 - b. Add 1 drop yellow food coloring to 100 mL saline.
 - c. Mix.

