

4. SEPARATION OF BLOOD PLASMA AND SERUM

Aim:

To separation of blood products (plasma and serum)

Introduction:

Serum and plasma both come from the liquid portion of the blood that remains once the cells are removed, but that's where the similarities end. Serum is the liquid that remains after the blood has clotted. Plasma is the liquid that remains when clotting is prevented with the addition of an anticoagulant.

Materials:

1. Whole blood
2. Centrifuge (up to 5000 rpm)
3. Centrifuge tubes suitable for the rotor of the centrifuge (preferably plastic and capped).
4. Disposable gloves
5. Disposable Pasteur pipette.
6. Measuring cylinder 10 ml.
7. syringe

Procedure:

1. In the first step, blood was collected aseptically from live fish by using 2 ml disposable syringes.
2. Transfer into dry clean centrifuge tube, pipette 15 ml of whole blood (V1).
3. Place the centrifuge tube in the centrifuge machine and run it at 3000 rpm for 10 minutes. Centrifugation of whole blood separates the solid from the supernatant plasma.
4. Remove the tube, withdraw the liquid layer (plasma) by pasture pipette and measure its volume using small measuring cylinder (V2).
5. Determine the volume of blood cells too V3 (equal to V1 – V2).
6. Transfer the supernatant (plasma) in another centrifuge tube and make further centrifugation at 3000 rpm. This will precipitate fibrinogen and the supernatant will be SERUM. Measure its Volume (V4).

Result:

Record your results in the following table:

	Component	Total volume	Percentage %
1.	Whole Blood	V1=	
2.	Plasma	V2=	
3.	Blood cells	V3=	
4.	Serum	V4=	