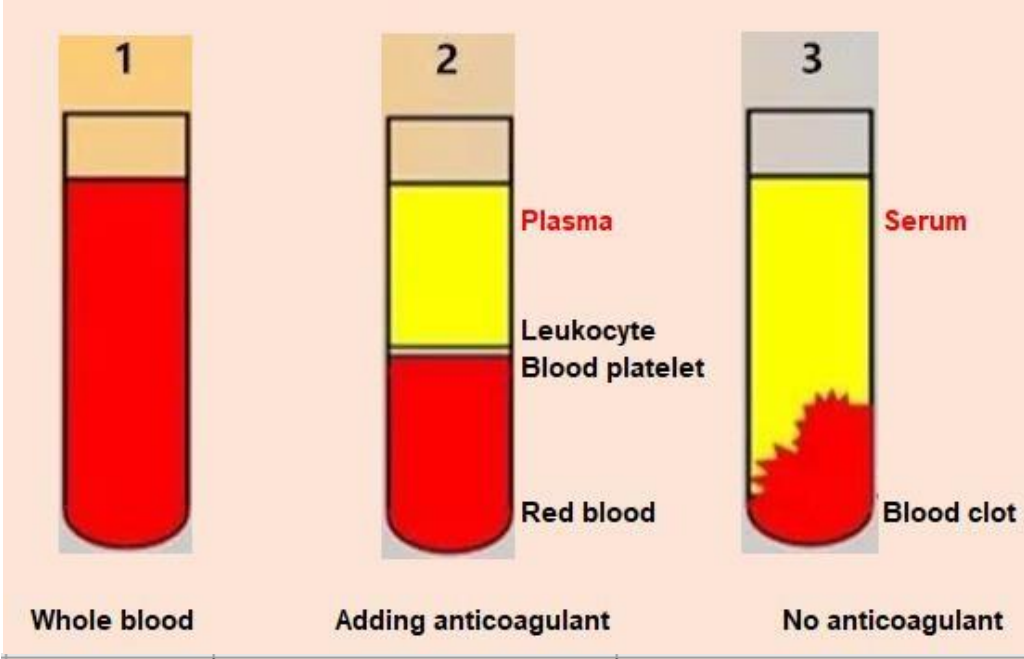
Sample preparation
Bovine pregnancy test

The Difference between Whole Blood, Plasma and Serum



	Color	Components
Whole blood	red	blood cells and plasma
Plasma	light yellow semitransparent	fibrinogen, no blood cells
Serum	yellow transparent	no fibrinogen, no blood cells

Whole blood (tube1): the mixture formed by collecting human blood into the blood collection bag is called whole blood, which includes all components of blood cells and plasma.

Plasma (tube2): the supernatant obtained by centrifugation after addinganticoagulant to whole blood. The presence of anticoagulant blocks the coagulation reaction and hinders the coagulation process. Fibrinogen is stillpresent in the plasma.

Serum (tube3): the upper layer of light-yellow transparent liquid formed after the coagulation reaction of wholeblood. The main reaction of coagulation is the conversion of fibrinogen to fibrin, so the serum no longer contains fibrinogen.

Precautions for Serum and Plasma Separation

During the separation of serum and plasma, two points should be paid special attention:

prevent hemolysis and avoid bacterial contamination.

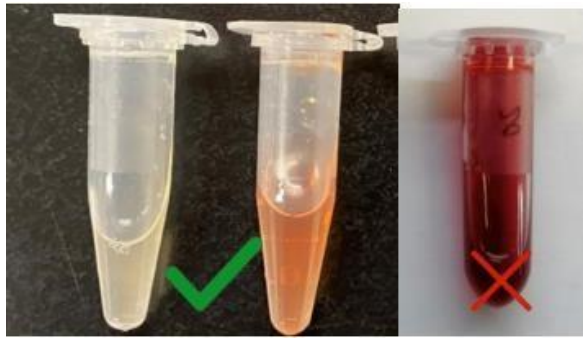
Tips for separating plasma serum samples:

1. **Fast:** after the blood leaves the body, the stability of the blood environment is inversely proportional to thelength of storage time, and the stability of the cell membrane is also decreasing.
   In this case, the separation of serum and plasma should be carried out as soon as possible, and the operating instructions should be strictly followed. To avoid hemolysis, avoid repeated freezing and thawingafter separation of serum and plasma.

2. **Slow:** the centrifugation speed should not be too fast, too fast centrifugation speed will cause hematocrit,which is prone to hemolysis.

3. **Cold:** if the blood sample can not be separated immediately for serum or plasma, it should be stored andtransported under refrigeration as much as possible. However, it must not be frozen, otherwise the blood cells will form ice crystals and cause cell rupture and hemolysis.

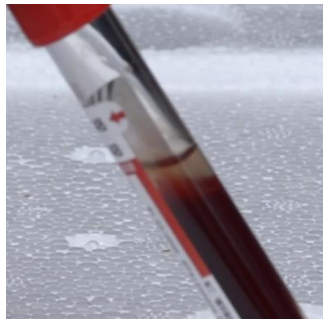
*Do not use samples that have been corrupted or severelyhemolyzed for testing.



Required device to get sample

Collection, Processing and Storage of Serum

- 4-5ml blood sample tube(**without anticoagulant**) stands still for 1-3hours(or just 0.5h at ambient temperature 25℃-37℃) or centrifuge at 10000 RPM for 1-3mins (2K-3K RPM for 10min; 6K-8K RPM for 2min)
- Volume: 100μL serum (70-130μL is okay) or 2 drops by using equipped disposable pipette(±1 drop isokay)
- Storage: 2-8℃ 24-48hours; -20℃ 1 months; -70℃ 6 months




Collection, Processing and Storage of **Plasma**

- 4-5ml blood sample tube (**contains anticoagulant** like EDTA, Heparin Sodium) stands still for 1-3 hours (or just 0.5h at ambient temperature 25℃-37℃) or centrifuge at 10000 RPM for 1-3mins (2K-3K RPM for 10min; 6K-8K RPM for 2min)
- Volume: 100μL plasma (70-130μL is okay) or 2 drops by using equipped disposable pipette (±1 drop isokay)
- Storage: 2-8℃ 24-48hours; -20℃ 1 months; -70℃ 6 months