

# Plasma versus serum

Plasma and serum are obtained by taking venous blood.

## Plasma

**Plasma** together with blood cells and elements form blood. We get it from non-coagulating whole blood. In order for the blood in the collection system not to "clot", we must prevent hemocoagulation:

- by binding of  $\text{Ca}^{2+}$  ions:
  - anion of a weak acid (citrate, oxalate,...) and salts that do not dissociate are formed;
  - as well as a chelating agent (EDTA) to form chelate;
- surface treatment of the material of the sampling system (heparin coating).

Finally, we remove cells and cellular elements by centrifugation.

## Serum

Obtaining **serum** is not so complicated - we do not prevent hemocoagulation in a collection system that often contains crystals to increase the contact surface. There is hemocoagulation, a fibrin network is formed in which blood cells are also trapped. What remains "liquid" is called serum.

Centrifugation is therefore no longer necessary.

## Comparison

What are the plasma and serum contents?

	plasma	serum
<b>Cells and elements</b>	no	no
<b>Proteins excluding coagulation factors</b>	yes	yes
<b>Coagulation factors</b>	yes	no
<b>Degradation products of coagulation factors</b>	no	yes

## Links

### Sources

### Related articles

- Blood
- Blood serum
- Plasma