

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 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
Cells and elements	no	no
Proteins excluding coagulation factors	yes	yes
Coagulation factors	yes	no
Degradation products of coagulation factors	no	yes

Links

Sources

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