



10.04.2019

Measurement of carotene in biological fluids using iCheck Carotene

Can iCheck Carotene reliably measure carotene in hemolytic serum?

Hemolytic serum is observed when red blood cells (RBC) are ruptured and their content is mixed with plasma.

Hemolytic serum sometimes occurs during the separation of plasma from blood cells by centrifugation. It is also observed in cases of some blood disorders such as sickle cell anemia, thalassemia, bone marrow failure and some infections.

Cytoplasm is a major water-soluble component of red blood cells.

iCheck Carotene reagent vials contain a mixture of organic solvents. When the whole blood or serum sample is injected into the vial, a separation is observed between water- and fat-soluble parts of the sample, forming 2 phases inside the vial.

RBC, whole or ruptured and water-soluble components of plasma are separated into the bottom phase, while fat-soluble components, i.e. carotene, are extracted into the upper organic phase. Therefore, hemolysis of RBC in the serum sample does not interfere with the measurement of carotene using iCheck Carotene.

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