

Comparison of VACUETTE® Serum Separator Tubes with Vacutainer® SST™ and Vacutainer® Serum Tubes for various Hormone Analytes

Background:

Greiner-Bio-One, Austria has sold plastic evacuated tubes (VACUETTE®) for venous blood collection since 1986. VACUETTE® Serum Separator tubes incorporate an inert gel material into the blood collection tube.

The gel has a controlled viscosity and a specific gravity intermediate to serum and clot. During centrifugation, the gel material forms an impermeable barrier between the serum and clot separating the serum from fibrin and cells.

Study Objective:

The aim of this study is to show equivalence in the performance of VACUETTE® Serum Separator tubes and Vacutainer® SST™ and Vacutainer® Serum tubes on various hormone analytes.

Study design:

Venous blood was collected from 80 hospital inpatients. The samples were collected in random order to prevent systemic bias.

The following tube types were used in blood collection:

- VACUETTE® Serum Separator
- Vacutainer® SST™
- Vacutainer® Serum (without Gel)

Directly after venipuncture, the tubes were carefully inverted and centrifuged according to the instructions given by the tube manufacturer.

Annex/ Results in detail:

The analysis of the following parameters was performed on the Cobas Core (Roche Diagnostics) with the instrument's accompanying reagents:

Analytes	
CA 125	CA 15-3
Ferritin	Prolactin
FSH	LH
Estradiol	

Conclusion:

Neither statistical significance using Student's T-Test at p(0.05) level, nor clinical relevance could be found when comparing VACUETTE® Serum Separator tubes to Vacutainer® SST™ and Vacutainer® Serum tubes for the 14 analytes tested in this study.

The variation found with estradiol is method-dependent and does not derive from the tubes.

References:

- (1) Guder W.G., Narayanan S., Wisser H., Zawta B., Samples: From the Patient to the Laboratory. Wiley-VCH, 3rd edition (2003)
- (2) Thomas L., Labor und Diagnose. TH-Books, 5. Auflage (1998)
- (3) Tietz N.W., Clinical Guide to Laboratory Tests. W.B. Saunders Company, third edition (1995)





