

# Evaluation of MiniCollect® K3 EDTA Tubes with spray-dried additive

## **Background:**

Greiner Bio-One has developed new MiniCollect® tubes incorporating spray-dried additives. The advantage of the new technology is that the additive is more uniformly coated on the inner tube walls and the mixing characteristics are improved

The MiniCollect® K3EDTA capillary blood collection tube is also featured with the unique cross-cut cap which does not need to be removed during the collection and sampling process.

The interior of the tube is coated with spray-dried K3EDTA anticoagulant.

MiniCollect® K3EDTA tubes are intended for use for testing parameters in haematology.

## **Study Objective:**

A clinical evaluation was carried out to compare the performance of the new spray-dried MiniCollect® K3EDTA tube in comparison to the Becton Dickinson Microtainer® K2EDTA tube.

## **Study design:**

The following tube types were used in this study:

Sample ID	Description
A	MiniCollect® K3EDTA 0,5 ml, spray dried (item No.: 450475)
B	Microtainer® K2EDTA 0,5 ml (item No.: 365975)

Directly after blood collection with venous blood, the tubes were carefully inverted according to the instructions given by the tube manufacturers. A complete blood count was performed using an ABBOTT Cell-Dyn 4000 Haematology System. Analysis was performed with the instrument's accompanying reagents.

## **Determined parameters:**

- Leucocytes
- Erythrocytes
- Haemoglobin
- Haematocrit
- Mean Corpuscular Volume
- Mean Corpuscular Haemoglobin
- Mean Corpuscular Haemoglobin Concentration
- Thrombocytes

- Neutrophile Granulocytes
- Lymphocytes
- Monocytes
- Eosinophile Granulocytes
- Basophile Granulocytes
- Red Cells Distribution Width
- Mean Thrombocytes Volume

## **Conclusion:**

The MiniCollect® K3EDTA tube with spray-dried additive demonstrated equivalent performance to the Microtainer® K2EDTA tube.

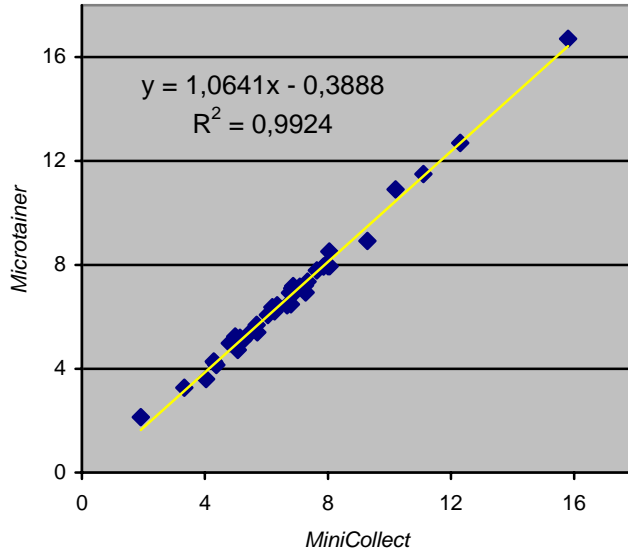
## **References:**

- (1) Greiner Bio-One. MiniCollect® Capillary Blood Collection Product Range. Instructions for Use. Kremsmünster, Austria. 2006.
- (2) Greiner Bio-One. MiniCollect® Product Manual. Kremsmünster, Austria. 2003.
- (3) Becton Dickinson and Company, BD Microtainer® Chemistry Tubes. Instructions for Use, Franklin Lakes. 2006
- (4) Guideline published by the Chamber Association for Medical Practitioners of the State of Germany concerning the quality assurance of quantitative analyses of Medical Laboratories, Germany (2001). Rev.2003
- (5) ISO 6710:1995(E), *Single-use containers for venous blood specimen collection*. International Standard. Genève, Switzerland (1995)
- (6) EP7-A: *Interference Testing in Clinical Chemistry*, Approved Guideline. CLSI (formerly NCCLS) document (ISBN 1-56238-480-5). CLSI, 940 West Valley Road, Suite 1400, Wayne, Pennsylvania 19087-1898, USA 2002.
- (7) EP9-A2: *Method Comparison and Bias Estimation Using Patient Samples*; Approved Guideline—Second Edition. CLSI (formerly NCCLS) document EP9-A2 (ISBN 1-56238-472-4). CLSI, 940 West Valley Road, Suite 1400, Wayne, Pennsylvania 19087-1898 USA, 2002.

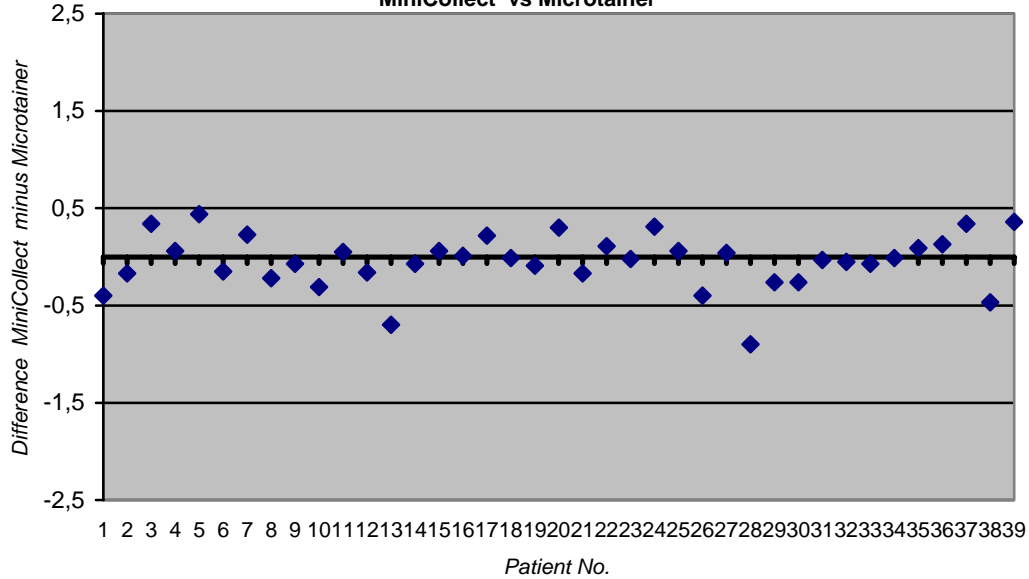
**Results in detail:**

Leucocytes

Leucocytes in [10<sup>3</sup>/uL]:  
normal range: 4,4-11,3 10<sup>3</sup>/uL  
MiniCollect vs Microtainer

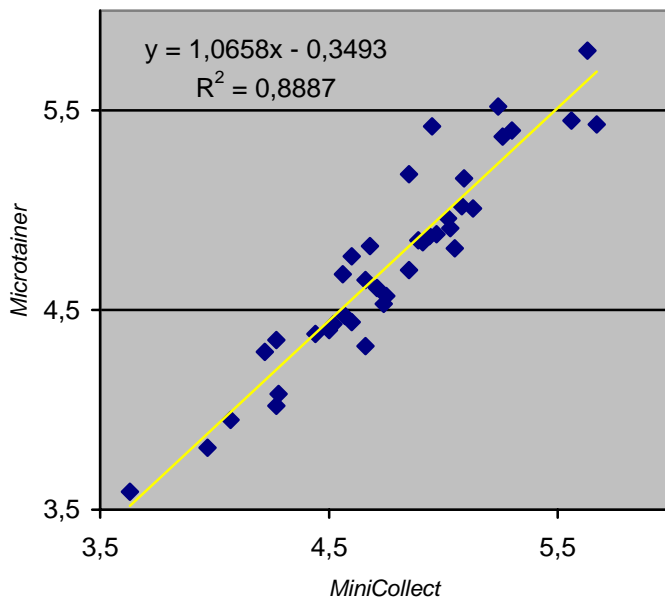


Leucocytes  
normal range: 4,4-11,3 10<sup>3</sup>/uL  
MiniCollect vs Microtainer

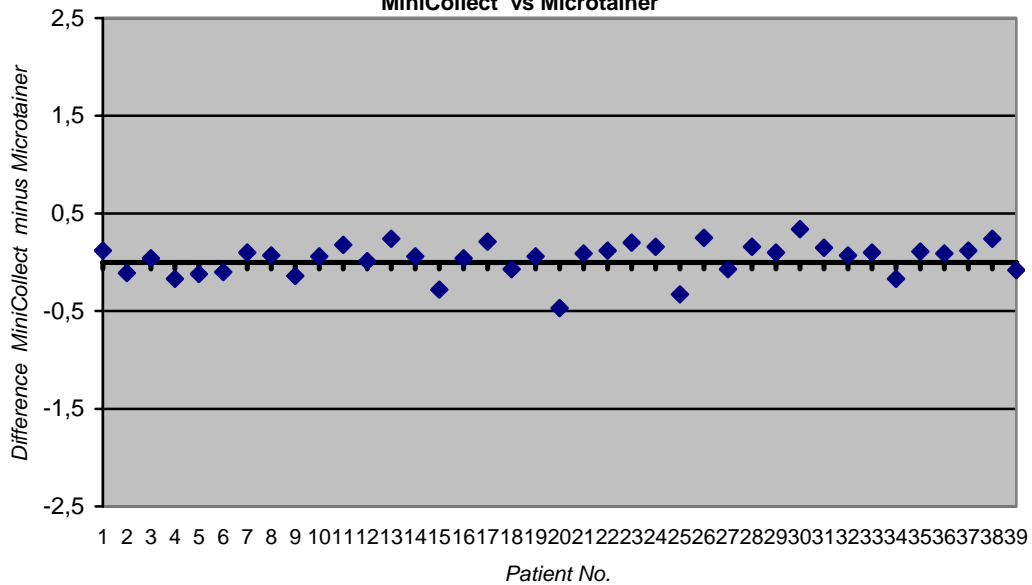


## Erythrocytes

Erythrocytes in [ $10^6/uL$ ]:  
normal range: f 4,1 - 5,1 [ $10^6/uL$ ]; m 4,5 - 5,9 [ $10^6/uL$ ]  
MiniCollect vs Microtainer

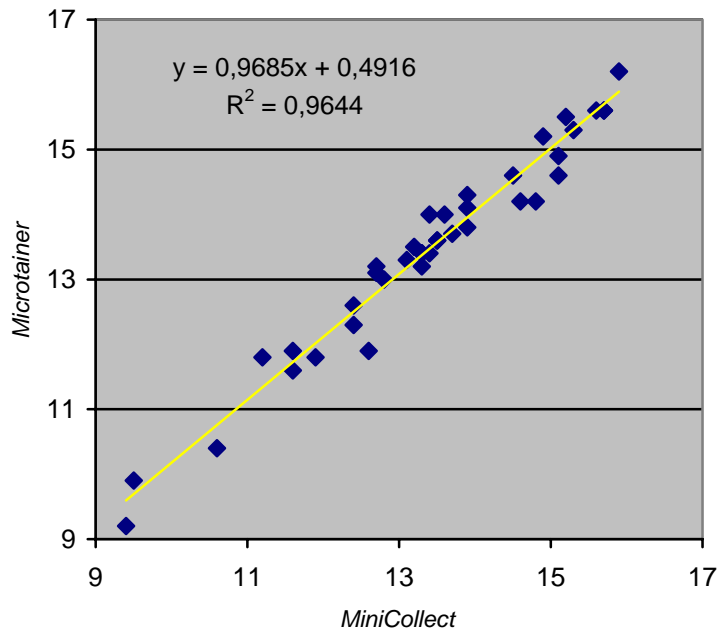


Erythrocytes  
normal range: f 4,1 - 5,1 [ $10^6/uL$ ]; m 4,5 - 5,9 [ $10^6/uL$ ]  
MiniCollect vs Microtainer

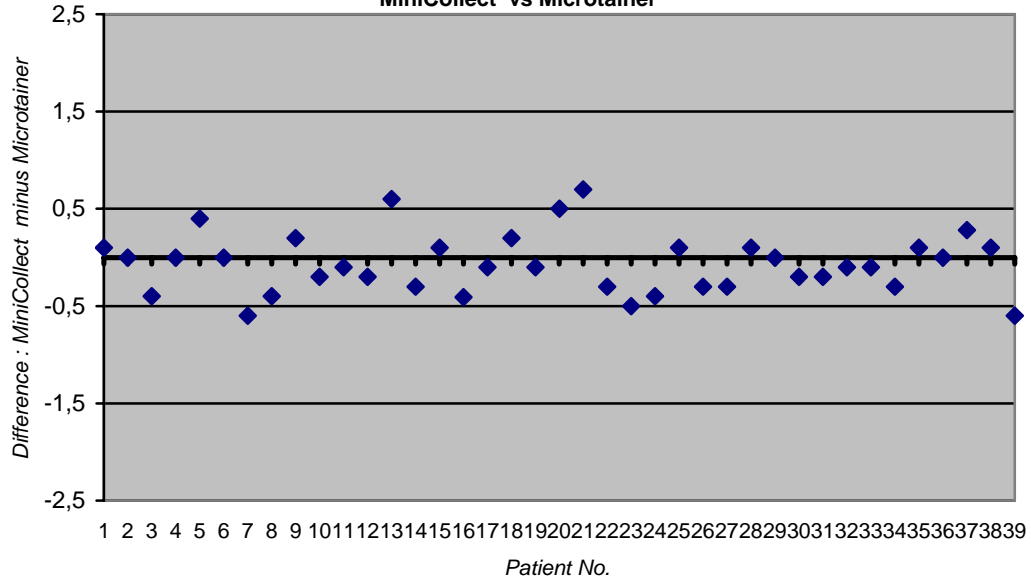


# Haemoglobin

Haemoglobin in [g/dl]:  
normal range: f 12,3 - 15,3 g/dl; m 14 - 17,5 g/dl  
MiniCollect vs Microtainer

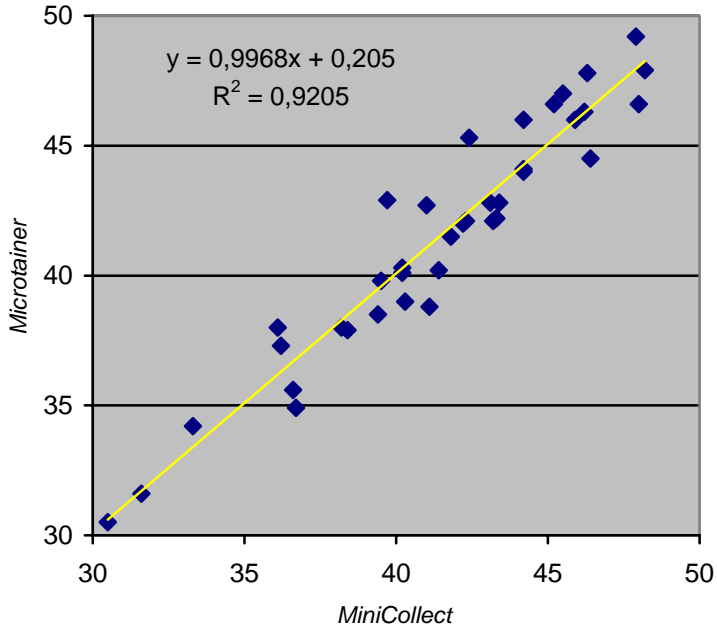


Haemoglobin  
normal range: f 12,3 - 15,3 g/dl; m 14 - 17,5 g/dl  
MiniCollect vs Microtainer

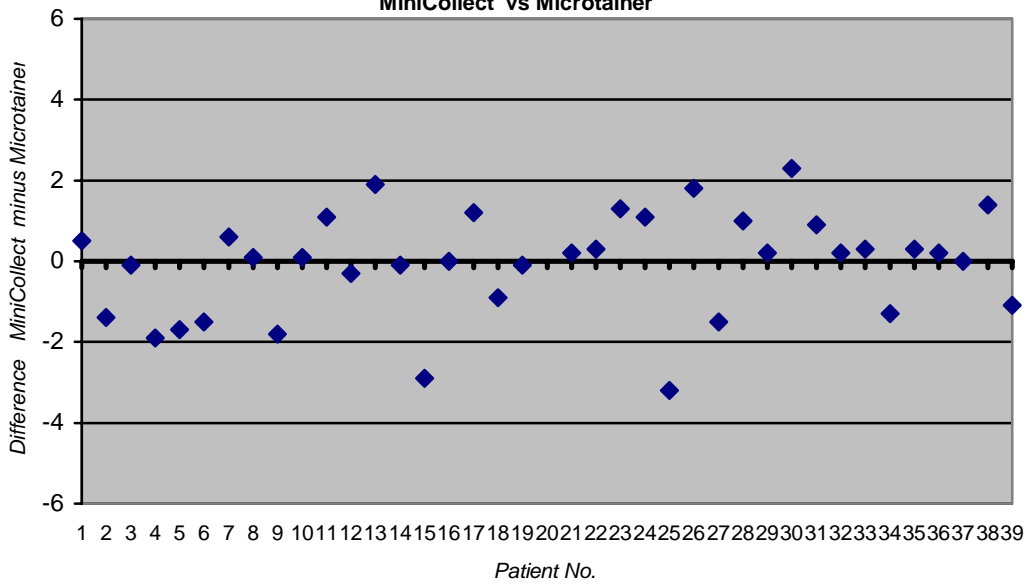


# Haematocrit

Haematocrit in [%]:  
 normal range: f 35 - 47 %; m 40 - 52 %  
 MiniCollect vs Microtainer

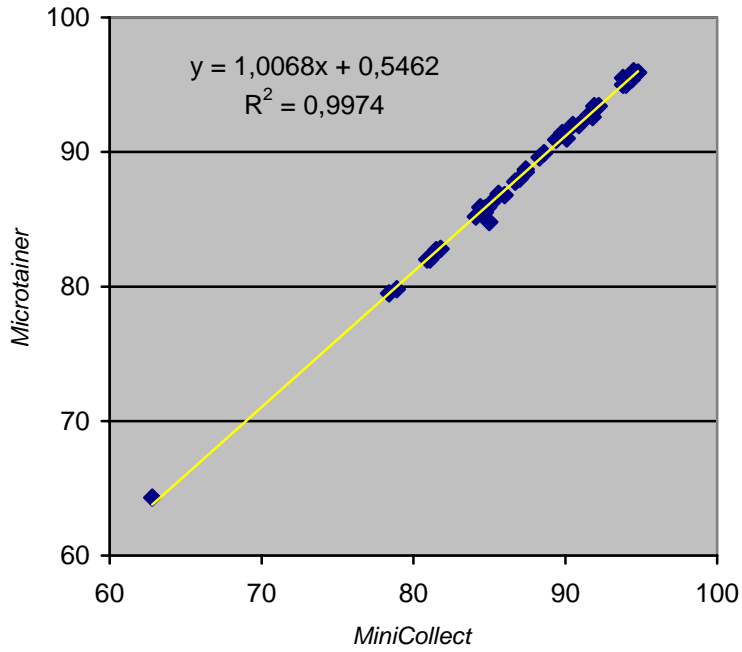


Haematocrit  
 normal range: f 35 - 47 %; m 40 - 52 %  
 MiniCollect vs Microtainer

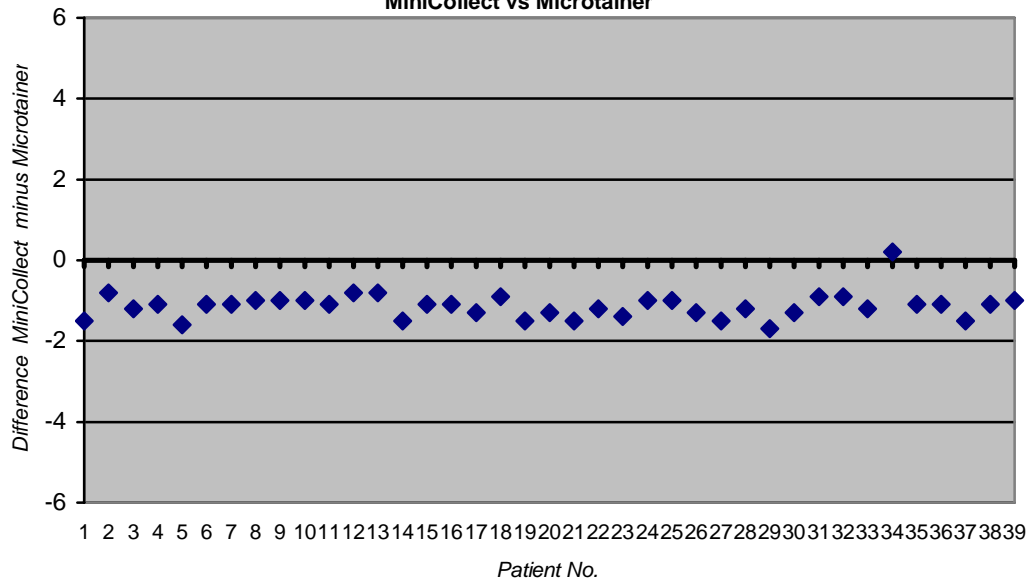


Mean Corpuscular Volume

**Mean Corpuscular Volume in [fl]:**  
**normal range: 80 - 96 fl**  
**MiniCollect vs Microtainer**

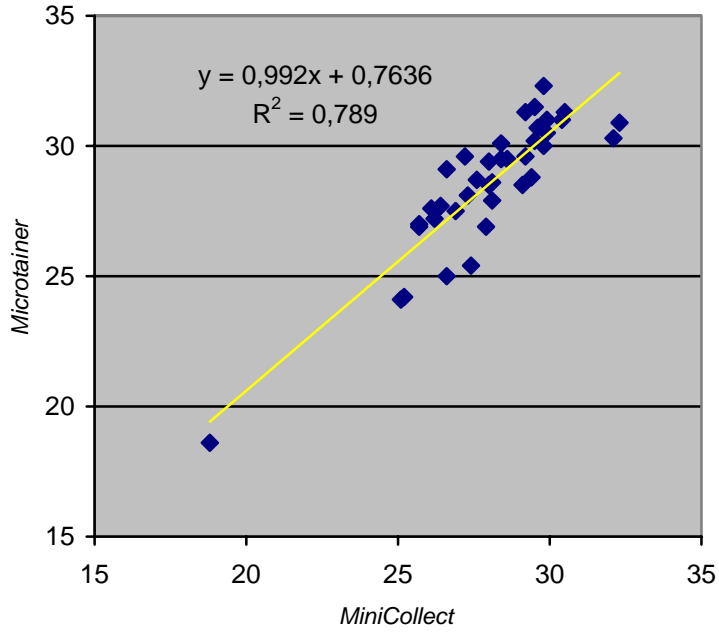


**Mean Corpuscular Volume**  
**normal range: 80 - 96 fl**  
**MiniCollect vs Microtainer**

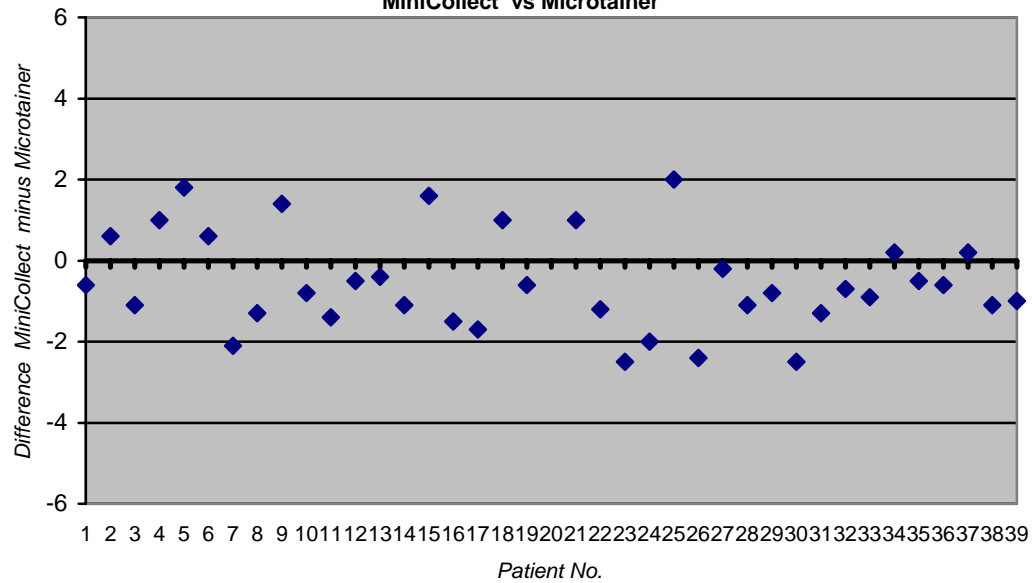


Mean Corpuscular Haemoglobin

Mean Corpuscular Haemoglobin in [pg]:  
normal range: 28-33 pg  
MiniCollect vs Microtainer

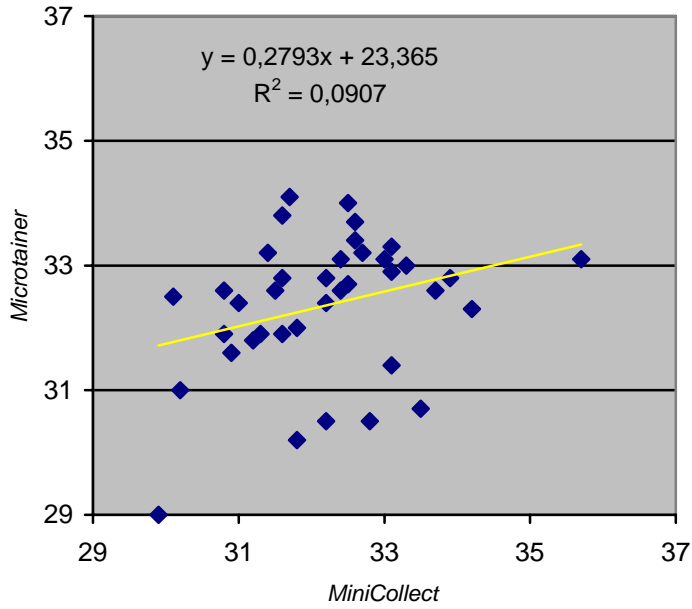


Mean Corpuscular Haemoglobin  
normal range: 28-33 pg  
MiniCollect vs Microtainer

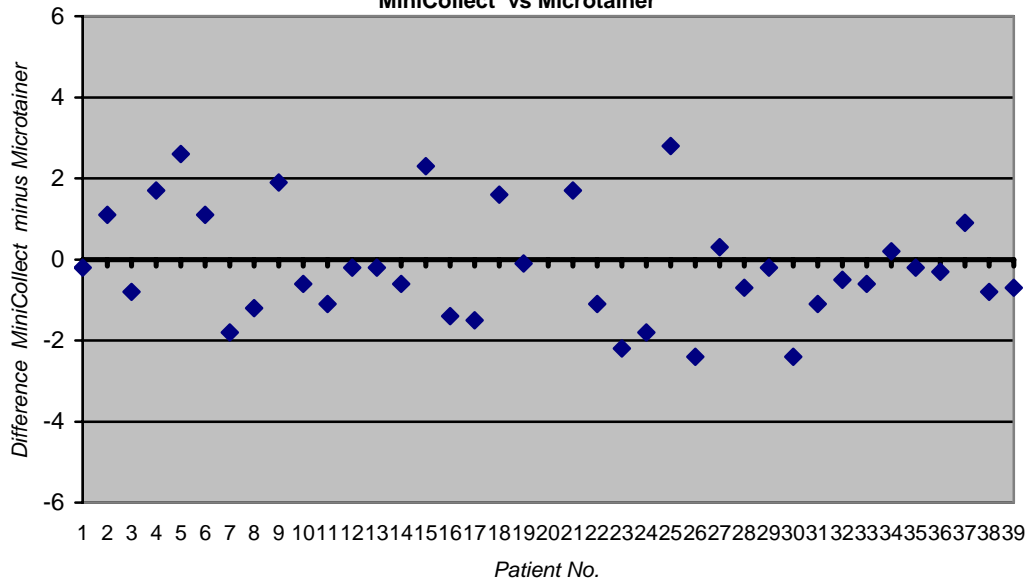


Mean Corpuscular Haemoglobin Concentration

Mean Corpuscular Haemoglobin Concentration in [g/dl]:  
 normal range: 33 - 36 g/dl  
 MiniCollect vs Microtainer



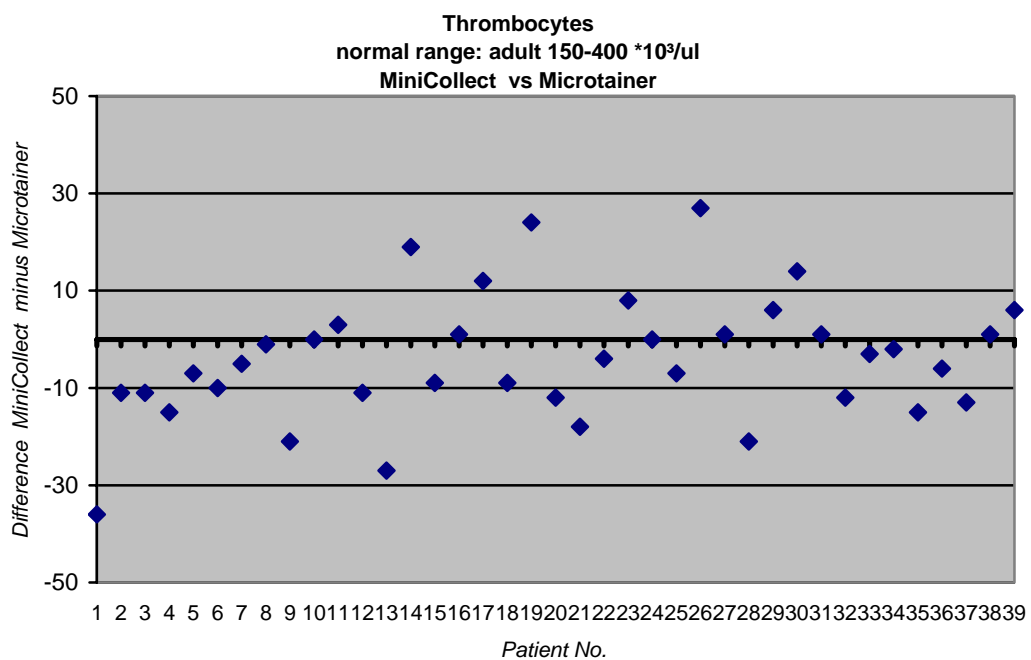
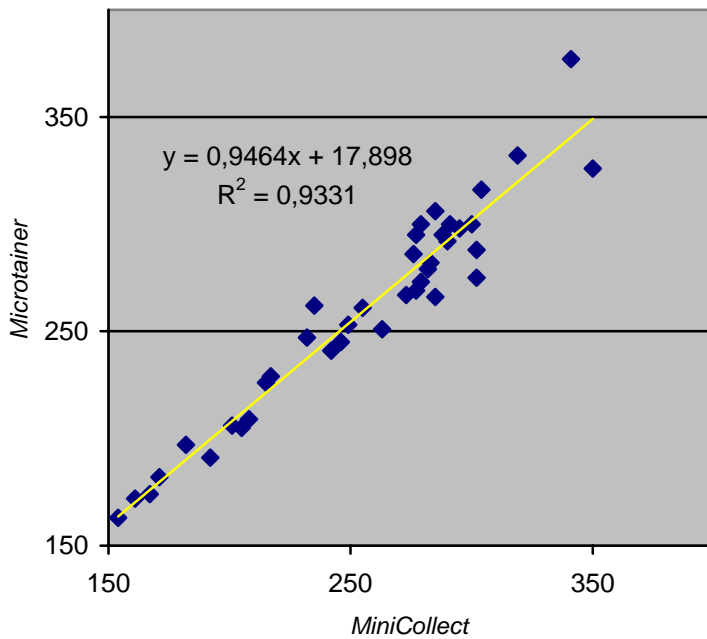
Mean Corpuscular Haemoglobin Concentration  
 normal range: 33 - 36 g/dl  
 MiniCollect vs Microtainer





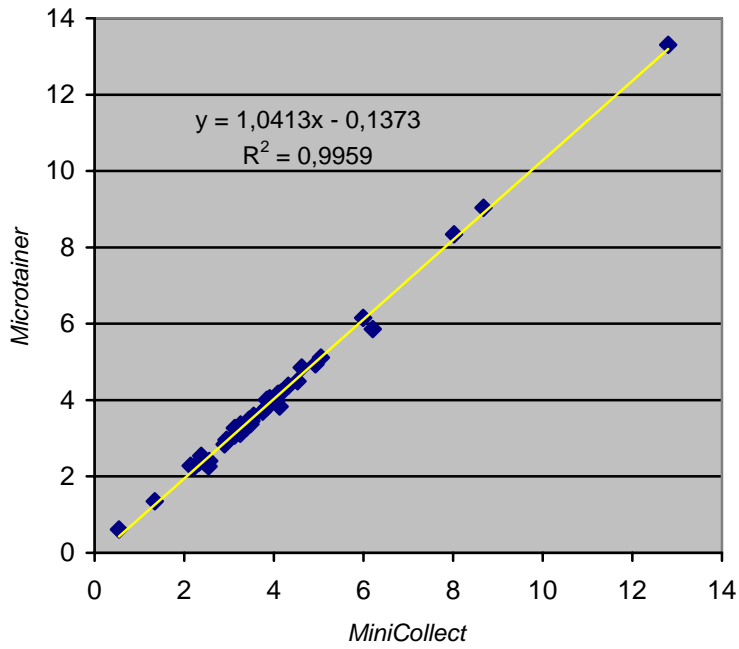
# Thrombocytes

Thrombocytes in [ $10^3/\text{ul}$ ]:  
normal range: adult 150-400  $\cdot 10^3/\text{ul}$   
MiniCollect vs Microtainer

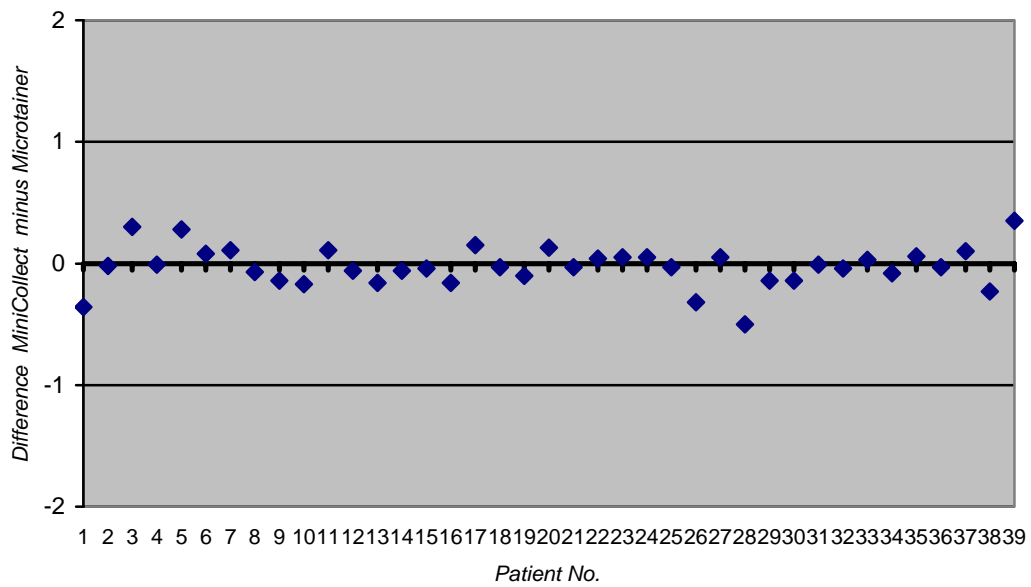


# Neutrophile Granulocytes

## Neutrophile Granulocytes in [10<sup>3</sup>/uL] MiniCollect vs Microtainer

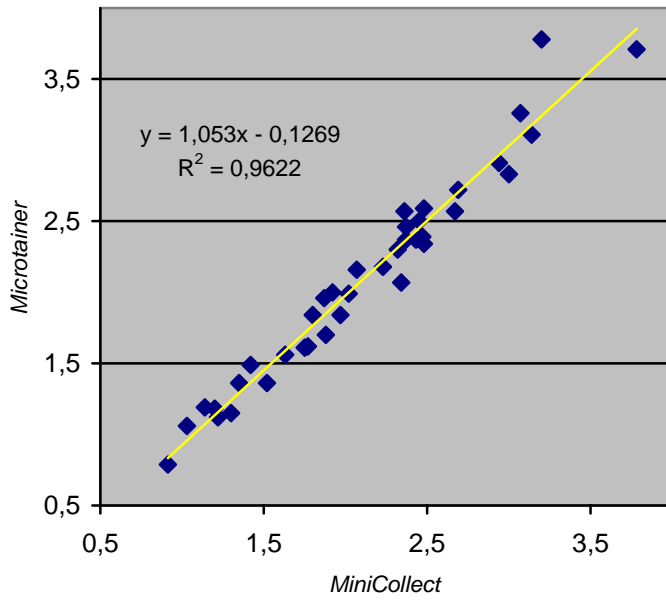


## Neutrophile Granulocytes in [10<sup>3</sup>/uL] MiniCollect vs Microtainer

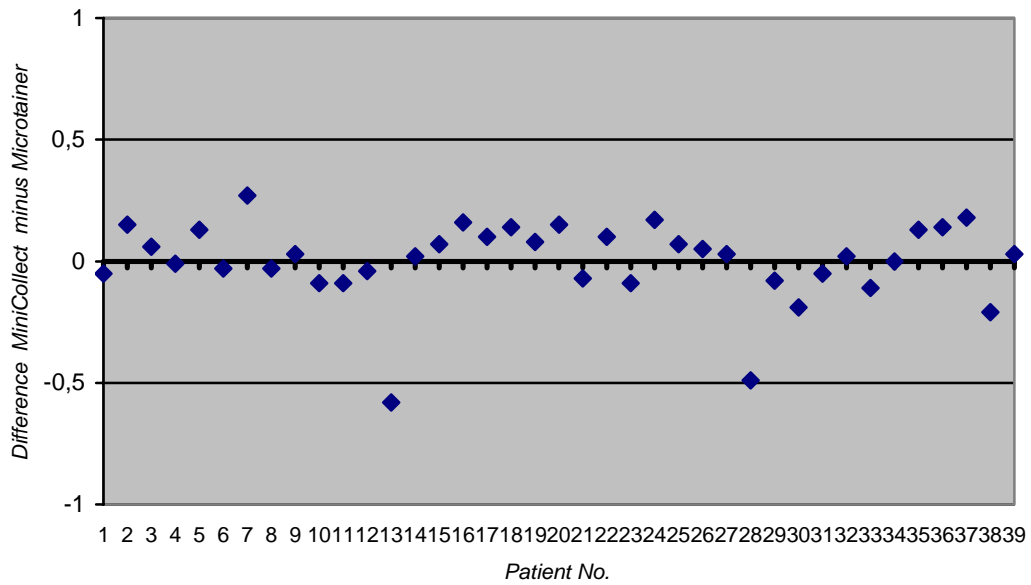


Lymphocytes

Lymphocytes in [10<sup>9</sup>/uL]  
MiniCollect vs Microtainer

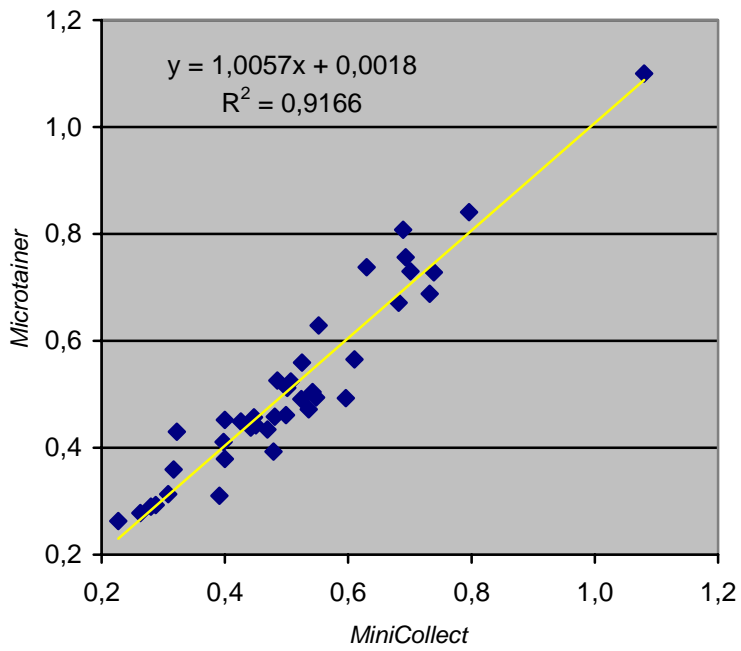


Lymphocytes in [10<sup>9</sup>/uL]  
MiniCollect vs Microtainer

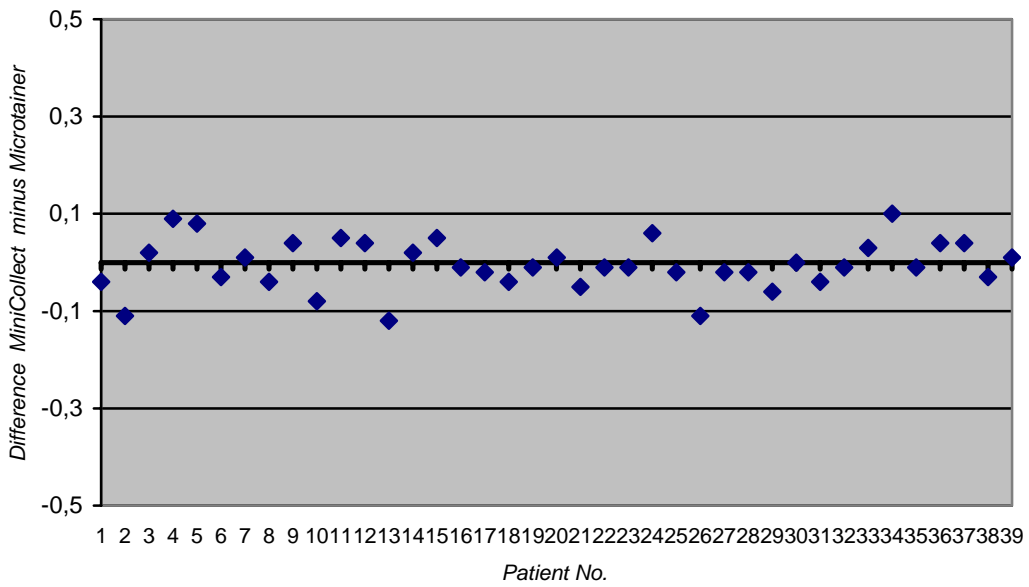


Monocytes

Monocytes in [10<sup>9</sup>/uL]  
MiniCollect vs Microtainer

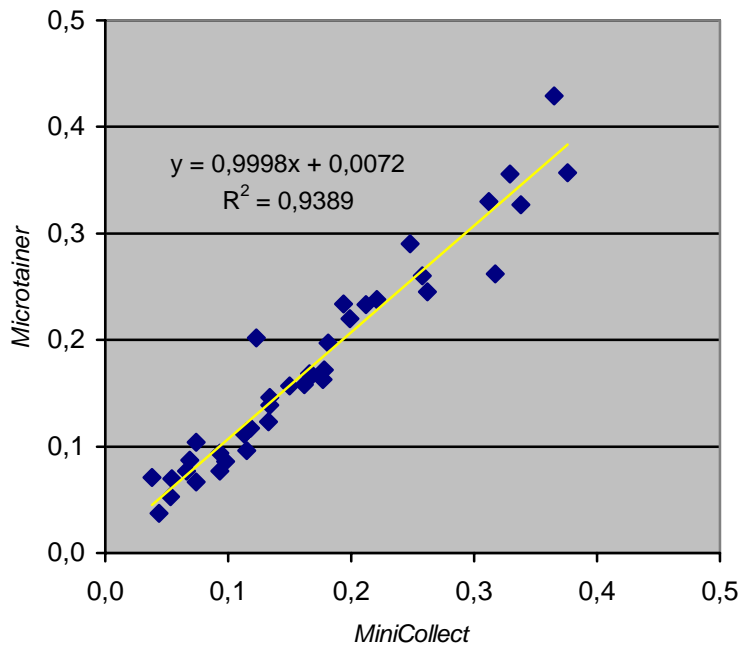


Monocytes in [10<sup>9</sup>/uL]  
MiniCollect vs Microtainer

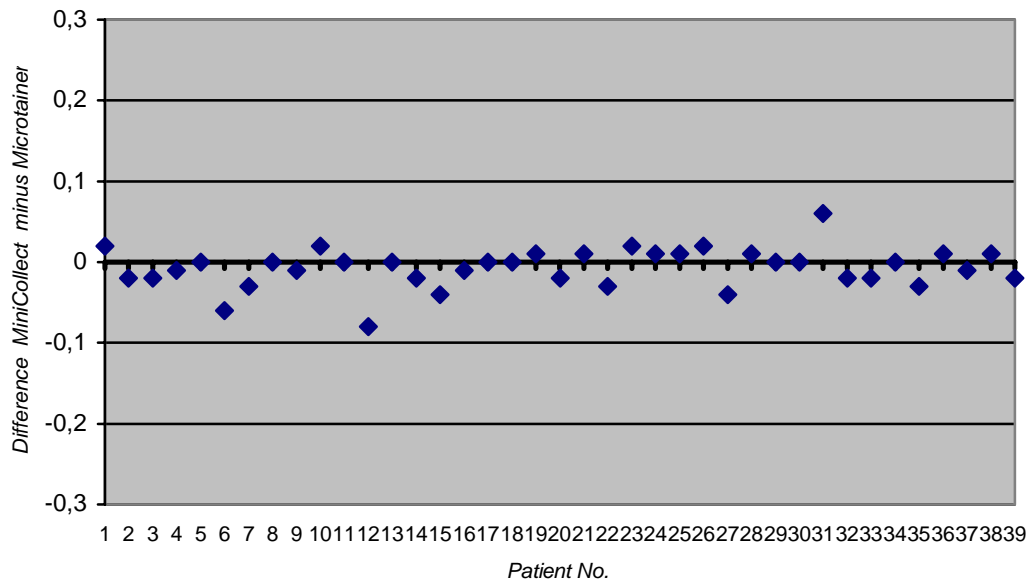


## Eosinophile Granulocytes

Eosinophile Granulocytes in [10<sup>3</sup>/uL]  
MiniCollect vs Microtainer

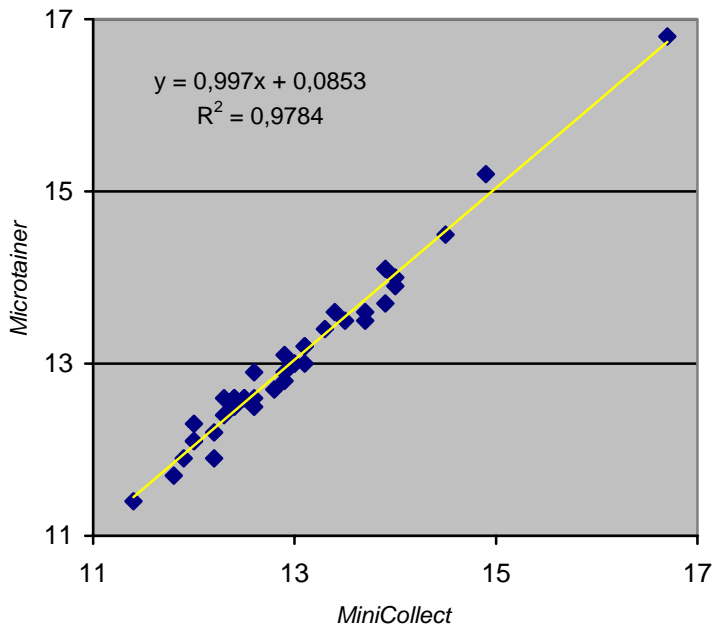


Eosinophile Granulocytes in [10<sup>3</sup>/uL]  
MiniCollect vs Microtainer

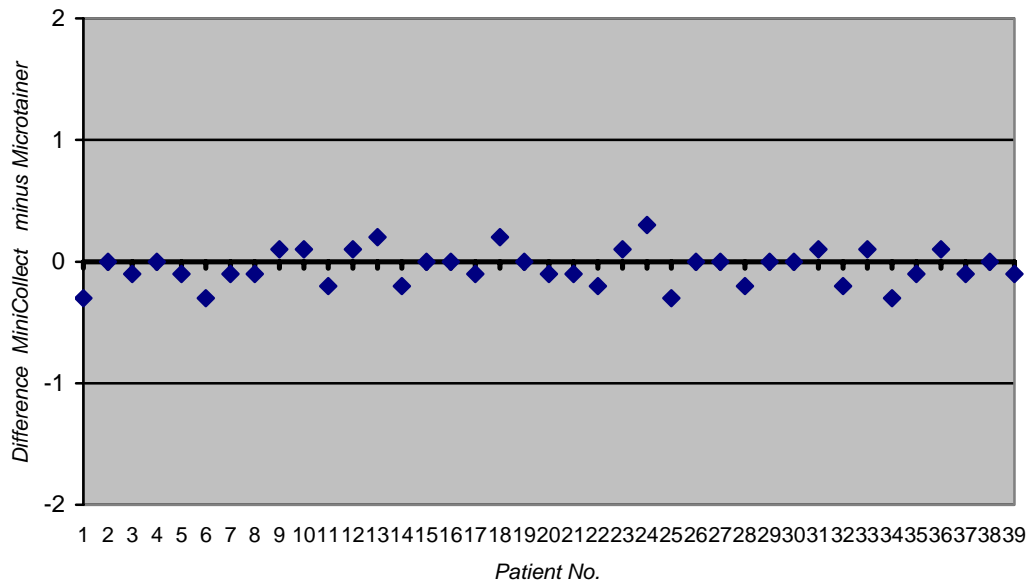


Red Blood Cells Distribution Width

Red Blood Cells Distribution Width in [%]  
MiniCollect vs Microtainer

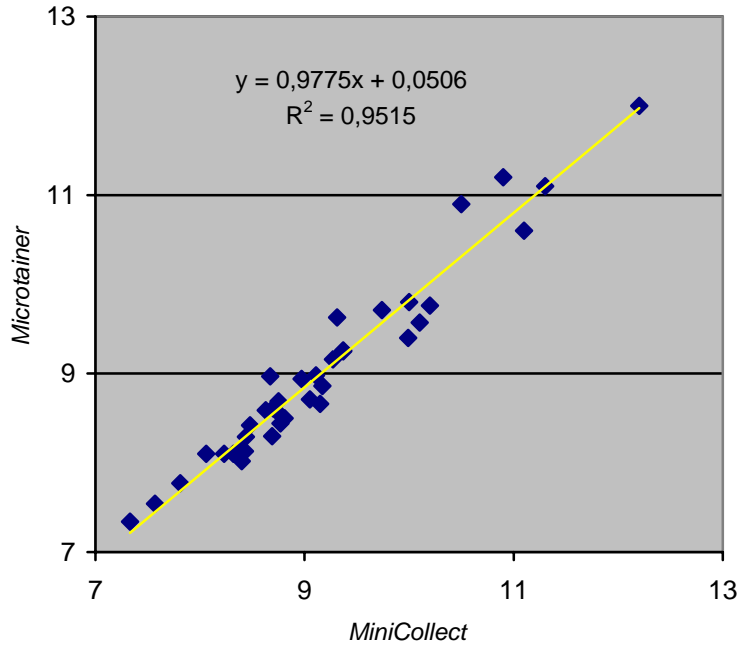


Red Blood Cells Distribution Width in [%]  
MiniCollect vs Microtainer



# Mean Thrombocytes Volume

## Mean Thrombocytes Volume in [fl] MiniCollect vs Microtainer



## Mean Thrombocytes Volume in [fl] MiniCollect vs Microtainer

