

COMPARISON OF A NEW VWF ACTIVITY ASSAY (STA - VWF:RCO) (STAGO) WITH BC VON WILLEBRAND REAGENT (SIEMENS), INNOVANCE VWF AC (SIEMENS) AND ABP VWF RICOF ASSAY.

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INTRODUCTION & OBJECTIVES

- Ristocetin cofactor activity of von Willebrand Factor (VWF:RCo) is used as a screening method to estimate VWF function and to detect von Willebrand Disease (VWD). Since VWF:RCo is considered as the reference method to assess VWF activity, there is a need for an automated assay on routine coagulation analyzers.
- This study aims at comparing STA - VWF:RCo on STA-R EES with other VWF activity assays :
 - BC von Willebrand reagent (Siemens) on CS2100i,
 - ABP VWF Ricof Assay on STA-R EES
 - Innovance VWF Ac on CS2100i.

MATERIALS

For comparison methods, patients plasmas included as described in the table below :

Number of patients plasmas	BC von Willebrand Reagent	ABP VWF Ricof Assay	INNOVANCE VWF Ac
Total	70	49	20
Activity < 50 %	30	11	9
50 % ≤ Activity ≤ 80 %	9	13	3
Activity > 80%	31	25	8

METHODS

STA - VWF:RCo
 Automated Ristocetin cofactor assay
 designed on
 STA-R and STA-R Max

Reagents

- R1 : Lyophilized platelets
- R2 : Buffer
- R3 : Ristocetin
- R4 : Calibrator
- R5 : Control 1
- R6 : Control 2

Benefits of STA - VWF:RCo

- Automated and barcoded ristocetin cofactor assay
- Calibrator and Controls included in the kit,
- 2 levels of Controls.

RESULTS

STA - VWF:RCo vs BC von Willebrand Reagent

Number of samples : 70
 Range : 13 – 228%

Correlation coefficient

$$r = 0,964$$

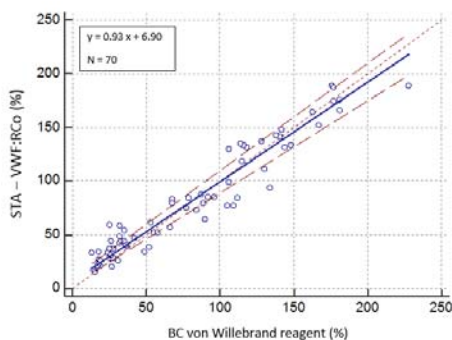
95% confidence interval (CI) : [0,943 ; 0,978]

Regression equation

(Passing-Bablok)

$$y = 0,93 x + 6,90$$

Slope = 0,93; 95% CI [0,86 ; 1,00]
 Intercept = 6,90; 95% CI: [3,00 ; 10,06]



STA - VWF:RCo vs ABP VWF Ricof Assay

Number of samples : 49
 Range : 19 – 242%

Correlation coefficient

$$r = 0,967$$

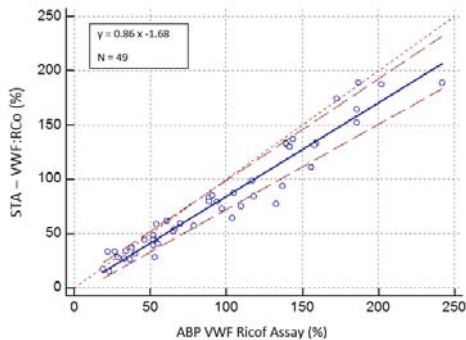
95% confidence interval (CI) : [0,941 ; 0,981]

Regression equation

(Passing-Bablok)

$$y = 0,86 x - 1,68$$

Slope = 0,86; 95% CI [0,79 ; 0,94]
 Intercept = -1,68; 95% CI: [-6,54 ; 5,14]



STA - VWF:RCo vs Innovance VWF Ac

Number of samples : 20
 Range : 18 – 186%

Correlation coefficient

$$r = 0,997$$

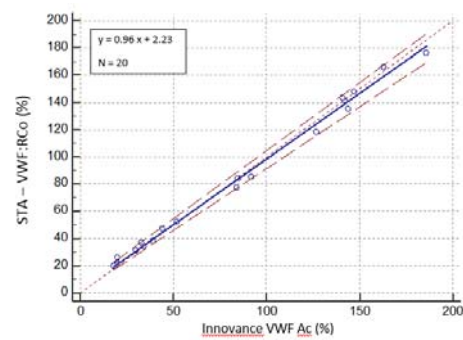
95% confidence interval (CI) : [0,993 ; 0,999]

Regression equation

(Passing-Bablok)

$$y = 0,96 x + 2,24$$

Slope = 0,96; 95% CI [0,91 ; 1,00]
 Intercept = 2,24 ; 95% CI: [0,50 ; 4,47]



CONCLUSION

STA - VWF:RCo demonstrated good correlations with BC von Willebrand Reagent, INNOVANCE VWF Ac as well as with ABP VWF Ricof Assay.

This new fully automated Stago assay can be used as a daily routine assay for VWF deficiencies screening.