

HemoScreen Vs. Siemens Advia 2120i

Performance and Usability Evaluation at Unilabs

"Giving reliable CBC, including 5-parts differential with such short time, is of great health-economic effect on the workflow in emergency departments and better clinical outcome for a substantial number of patient groups."

Dr. Soheir Beshara, Unilabs, Sweden

About the Evaluation

The HemoScreen was evaluated at Unilabs in Eskilstuna, Sweden, in November-January, 2019. 138 Samples were run on both the HemoScreen and the Siemens Advia 2120i for CBC analysis and 89 samples were run on HemoScreen or as a smear test on the CellaVision. Results were analyzed and the usability of the system was tested.

The evaluation had several purposes:

- Evaluate the **analytical performance** of the device: trueness, precision, and linearity
- Evaluate the **clinical performance** of the device: testing critical values and flagging
- Evaluate the **usability** of the device

The Results:

The HemoScreen accuracy was found to have a strong correlation with Siemens Advia 2120i and the CellaVision in all measured parameters. The system's safety, clinical efficacy, and ease-of-use were demonstrated with respect to its intended use:

	Reference Method	r [CI 95%]	Deming Slope [CI 95%]	Deming Intercept [CI 95%]
WBC	Advia	0.9957 [0.9939 , 0.997]	1.0783 [1.0606 , 1.0959]	-0.1617 [-0.3809 , 0.0575]
NEU#	Advia	0.9802 [0.9693 , 0.9872]	1.0828 [1.0341 , 1.1315]	-0.4751 [-0.8193 , -0.131]
LYM#	Advia	0.9946 [0.9917 , 0.9965]	1.0442 [1.0202 , 1.0683]	0.3795 [0.1773 , 0.5817]
MON#	Advia	0.7626 [0.6495 , 0.8426]	1.9573 [1.5753 , 2.3392]	-0.2044 [-0.4079 , -0.001]
EOS#	Advia	0.9346 [0.8993 , 0.9578]	1.2247 [1.1189 , 1.3305]	-0.0145 [-0.0351 , 0.006]
NEU%	CellaVision	0.9682 [0.9497 , 0.98]	0.8895 [0.8352 , 0.9439]	4.8681 [1.4105 , 8.3258]
LYM%	CellaVision	0.9632 [0.9424 , 0.9766]	0.914 [0.8549 , 0.9731]	3.2886 [1.2528 , 5.3244]
MON%	CellaVision	0.7292 [0.6018 , 0.8204]	0.7315 [0.5714 , 0.8917]	3.3556 [2.0636 , 4.6476]
EOS%	CellaVision	0.8532 [0.7773 , 0.9046]	1.0308 [0.8848 , 1.1767]	0.1336 [-0.3271 , 0.5942]

About Unilabs

Founded in 1987 in Switzerland, Unilabs is one of the largest diagnostics services company in Europe, operating in Denmark, Finland, France, Italy, Norway, Portugal, Russia, Spain, Sweden, Switzerland, and the UK. Unilabs provides various medical laboratory services, including in laboratory medicine, genetic testing, and clinical trials. Its customers are both public and private healthcare providers, insurance companies, the pharmaceutical industry, and CROs.

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