**Evaluation of AUTION EYE AI-4510 cell morphology analyzer for counting urinary particles**

Matthijs Oyaert1,#, Timo Kouri2,3, Eva Carton1, Sigrid Deprez1, Stijn Lambrecht1, Marijn Speeckaert4,5  
1Department of Laboratory medicine, Ghent University Hospital, Ghent, Belgium  
2Department of Clinical Chemistry, HUSLAB, Helsinki University Hospital, HUS Diagnostic Center, FIN-00029 HUS, Helsinki, Finland  
3Department of Clinical Chemistry, University of Helsinki, Finland.  
4Department of Nephrology, Ghent University Hospital, 9000 Ghent, Belgium  
5Research Foundation Flanders, 1000 Brussels, Belgium

**Table 1S.** Within laboratory imprecision of the AUTION EYE AI-4510 using control material. The reproducibility of RBC, WBC, crystals and bacteria counts was obtained by measuring Bio-Rad Liquichek (Level 2) control suspension in a 5x1x5 protocol (CLSI EP15-A3), and that for Particles of the AUTION EYE Low and High Control suspensions from single measurements once for 26 days.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | | | **Bio-Rad Liquicheck, Level 2** | | | |  | **AUTION EYE**  **control solution** | |
| **Particle type** | |  | | **RBC a** | **WBC** | **Crystals** | **Bacteria** |  | **Low** | **High** |
| **Mean count (x 106/L)** | | | | 687 | 95.1 | 139 | 109 |  | 28.6 | 1535 |
| *CV%*, observed | | | | 4.4 | 7.5 | 13.2 | 19.5 |  | 9.9 | 3.7 |
| *CV%*, theoretical b | | | | 3.8 | 10.3 | 8.5 | 9.6 |  | 18.7 | 2.6 |
| ***R(CV)* c** | | |  | 1.2 | 0.7 | 1.6 | 2.0 |  | 0.5 | 1.4 |

a Abbreviations: RBC, red blood cells; WBC, white blood cells; *CV*, coefficient of variation; *R(CV),* relative coefficient of variation = ratio of observed / theoretical Poisson imprecision, based on the mean count.

b Equation for the theoretical Poisson *CV* to the mean count, *m*: *CV(Poisson)* = √*m*/*m*.

c *R(CV)* <2 was used as a desirable imprecision of counting.