

# Aldosterone determination: Comparison of a RIA assay and a CLIA assay

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## Introduction and objectives

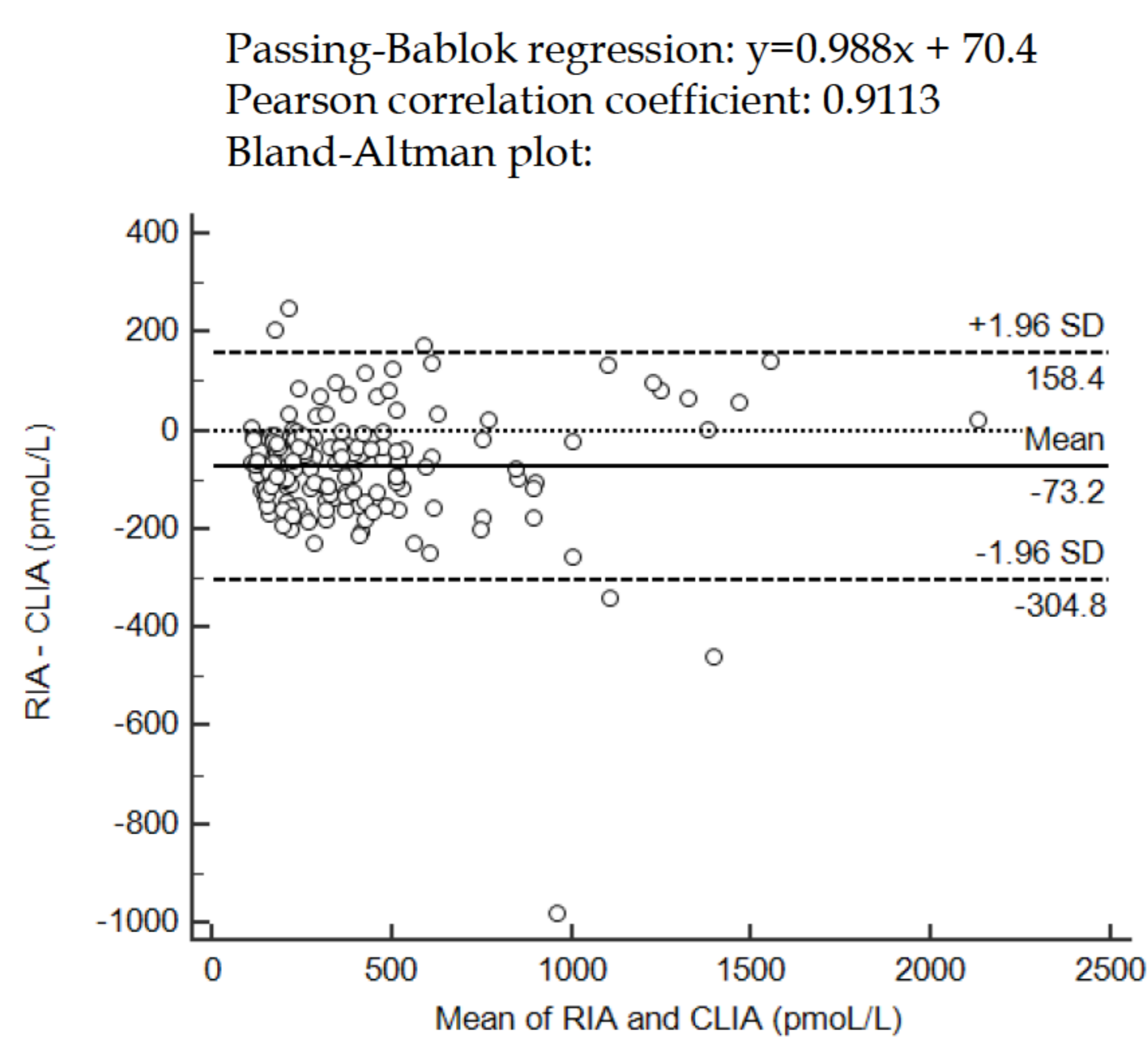
To extend knowledge about the clinical performances of a new chemiluminescent immunoassay (CLIA) for aldosterone set up in available analysers.

## Methods

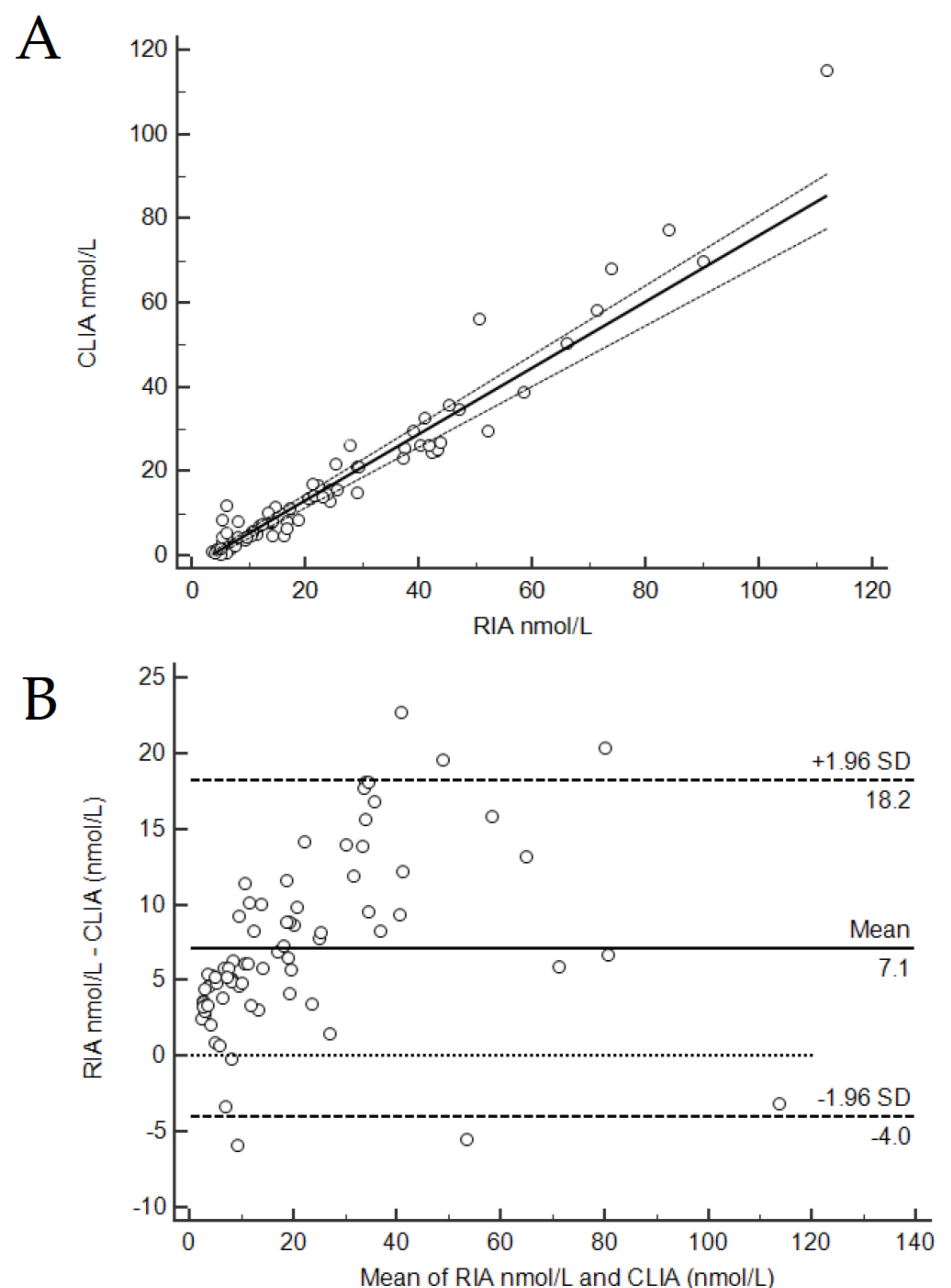
We compared the results of a RIA assay (Coat-a-count, Siemens) to those of a CLIA assay (Liaison automated analyser, Diasorin) in 198 serum and 80 urine samples from patients in endocrine and hypertension departments.

Furthermore, we investigated the avoidance of boric acid as a preservative in urine samples (rapid transit to our laboratory <3 h)

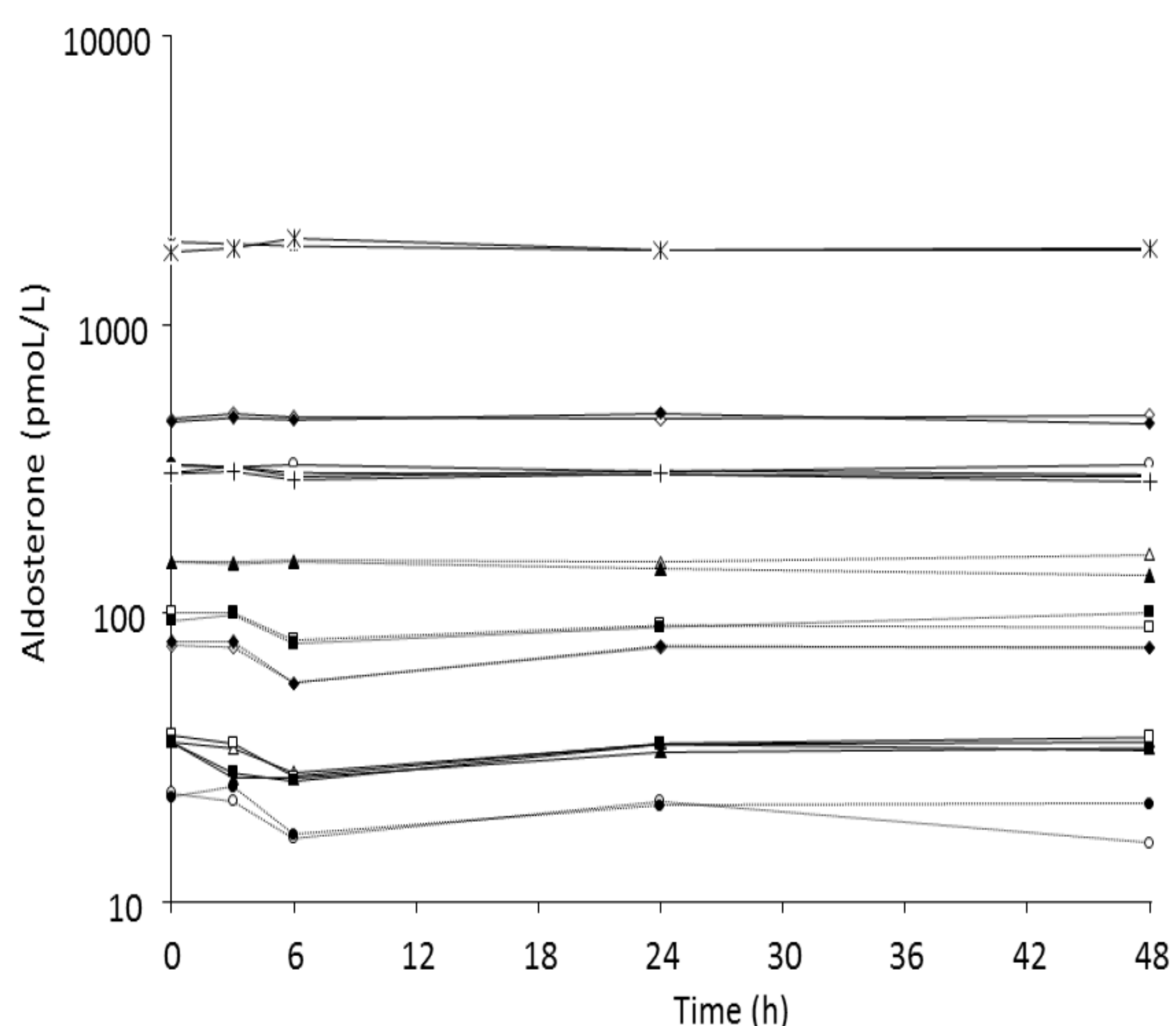
### Serum comparison results



### Urine comparison results



### Avoidance boric acid in urine



Urine aldosterone concentrations with the RIA and CLIA assays. Evolution of concentrations in samples without (open symbols) or with (closed symbols) boric acid.

Urine aldosterone concentrations with the RIA and CLIA assays.  
 A) Distribution of concentrations aldosterone with Passing-Bablok regression line ( $y=0.787x + 2.64$ ) with 95% confidence intervals (dotted line)  
 B) Bland-Altman plot.

## Results and conclusion

The RIA and CLIA assays were well correlated for the serum and urine samples. No modification of aldosterone concentration when omitting boric acid in urine samples up to 48 h after collection.

**References:** Schirpenbach C., Seiller L., Maser-Gluth C., Beuschlein F., Reincke M., Bidlingmaier M. Automated chemiluminescence-immunoassay for aldosterone during dynamic testing: comparison to radioimmunoassays with or without extraction steps. Clin Chem 2006  
 Derlet F., Lepoutre T., Gruson D. Aldosterone testing: evaluation of a novel automated immunoassay. Biomarkers 2014

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