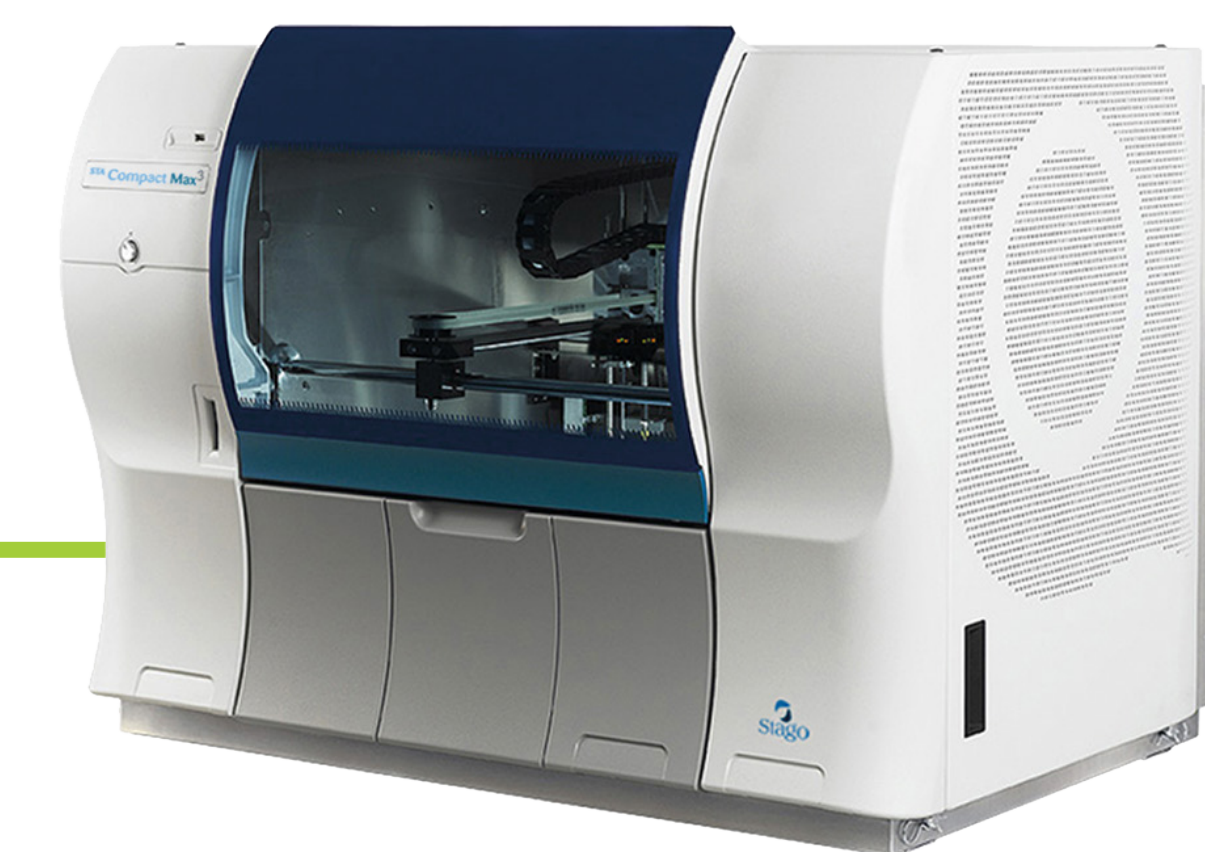


Evaluation of STA-PTTA and STA-C.K.PREST reagents, and comparison with STA-Cephascreen for activated partial thromboplastin time measurement in dogs, cats, and horses



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Purpose

The discontinuation of STA-Cephascreen prompted us to evaluate two alternative reagents to measure activated partial thromboplastin time (aPTT). Based on method comparison and precision evaluation, STA-C.K.PREST showed better analytical performance than STA-PTTA, and was selected to replace STA-Cephascreen.

Introduction

The STA-Cephascreen reagent (Diagnostica Stago) was previously widely used in veterinary laboratories to measure activated partial thromboplastin time (aPTT). Its announced discontinuation prompted us to evaluate two alternative reagents, STA-PTTA and STA-C.K.PREST, on the STA-Compact Max3 analyzer for dogs, cats and horses.

Materials and methods

For both candidate reagents, precision was tested by analyzing control plasmas (STA-COAG CONTROL N+P), twice in the morning and twice in the afternoon for 5 consecutive working days, and by analyzing the same citrated plasma 20 times within an hour for each species. We also compared the aPTT results obtained by the STA-Cephascreen and the two candidate reagents on 79 dogs, 60 cats and 64 horses requiring a haemostasis workup, using Passing-Bablok correlations, Bland-Altman plots and Spearman's estimators.

Finally, we established new reference intervals for the retained reagent, using Passing-Bablok correlation equations

Results

Using STA-COAG CONTROL N+P plasmas, the coefficient of variation (CV) of repeatability were less than 1.2%, the intra-laboratory CV less than 2.4% and the bias less than 6% for both reagents.

Using animal plasmas, CVs were below 3%, except for STA-PTTA, which had a CV of 10.5% in horses.

Passing-Bablok equations and Bland-Altman plots revealed:

- moderate, proportional, negative bias for STA-C.K.PREST
- severe, proportional, positive bias for STA-PTTA.

Spearman's r_s were greater than 0.80 for STA-C.K.PREST and approximately 0.56 for STA-PTT A.

Conclusions

STA-C.K.PREST showed better CVs than STA-PTTA in dogs, cats and horses, and correlated better with the STA-Cephascreen previously used.

The new reference intervals for aPTT are [11.4-14.1] s in dogs, [11.0-15.1] s in cats and [36.8-46.2] s in horses.

