

1. [Evaluation of Proteinuria in Cats: Comparison Between Coomassie Brilliant Blue and Pyrogallol Red Molybdate](#)

M. Giraldi¹; G. Rossi¹; W. Bertazzolo²; S. Paltrinieri¹; P. Scarpa¹

Search Result #1: **Evaluation of Proteinuria in Cats: Comparison Between Coomassie Brilliant Blue and Pyrogallol Red Molybdate**

[Click to go to the TOP](#)

Author(s): M. Giraldi¹; G. Rossi¹; W. Bertazzolo²; S. Paltrinieri¹; P. Scarpa¹

Address (URL):

Evaluation of Proteinuria in Cats: Comparison Between Coomassie Brilliant Blue and Pyrogallol Red Molybdate
25th ECVIM-CA Congress, 2015

M. Giraldi¹; G. Rossi¹; W. Bertazzolo²; S. Paltrinieri¹; P. Scarpa¹

¹University of Milan, Milan, Italy; ²Veterinary Animal Hospital Città di Pavia, Pavia, Italy

Pyrogallol red molybdate (PRM) is the commonest assay used for evaluation of the concentration of feline urinary protein (UP). The use of Coomassie brilliant blue (CBB) assay is also reported but data about method-dependent differences and analytical variability are lacking. Therefore, the aims of this study were to compare UPs and urinary protein:creatinine (UPC) ratios recorded with PRM and CBB and to evaluate intra-assay imprecision of creatinine, proteinuria, and UPC ratio of both methods in cats.

Urine samples were collected from 58 client-owned cats by ultrasonographically-guided cystocentesis and centrifuged within 30 minutes. Due to the analytical nature of this study, samples were included irrespective of results of sediment or of underlining diseases.

Creatininuria was measured with the modified Jaffè method and UPs with PRM and CBB in triplicate. The mean values were used to calculate UPC ratios. The Wilcoxon signed rank test was performed to investigate the differences between UP obtained with PRM and CBB and between calculated UPC ratios. Correlation between methods was assessed with the Spearman test and agreement with Passing-Bablok and Bland-Altman tests.

Intra-assay coefficients of variations (CV) were calculated in 15 samples by 20 repeated measurements of creatinine and of UPs (with both methods). The Spearman test was used to investigate the correlation between mean UPs and intra-assay CVs for PRM and CBB.

Concordance between UPC ratios of both methods in classifying patients as proteinuric (P, UPC ratio < 0,2), borderline proteinuric (BP, 0,2 < UPC ratio < 0,4) or non proteinuric (NP, UPC ratio > 0,4) was assessed using Cohen's k coefficient test.

Urinary proteins assayed with PRM and CBB ranged from 6,2 to 193,6 mg/dL (median 28,8 mg/dL) and from 8,9 to 325,4 mg/dL (median 61,6 mg/dL), respectively, and creatinine concentration from 28,2 to 934,2 mg/dL (median 199,3 mg/dL).

Proteinuria and UPC ratio showed statistically significant differences between methods ($p < 0,0001$ for both) with higher values recorded using the CBB method. Agreement between methods showed constant and proportional error for protein quantification. The two methods were correlated for both UP and UPC ($p < 0,0001$).

All intra-assay CV were < 10%. No correlations were found between the mean UP and the intra-assay CV for both PRM and CBB.

Concordance in classifying samples according to IRIS sub-staging was moderate ($k = 0,476$).

Coomassie blue method was accurate and precise at any level of proteinuria but the higher UPC obtained with CBB compared to PRM may affect interpretation and clinical decisions according to the IRIS guidelines.

DISCLOSURES

No disclosures to report.