

# Measurement of cortisol in saliva by nine laboratories

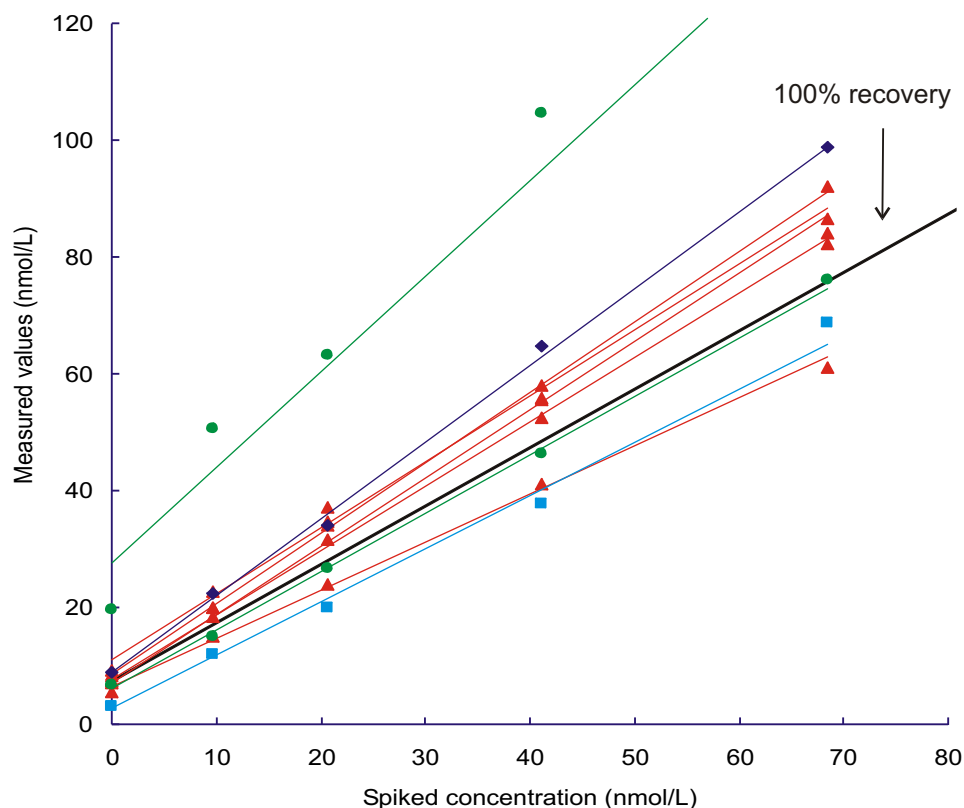
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## Conclusion

- The variation between laboratories emphasizes the need for a proficiency testing scheme for cortisol in saliva.
- The variation between methods emphasizes the need for a certified reference material for cortisol in saliva, e.g. for calibration of kits.

## Results



## Introduction

Comparability between measurements carried out by different methods and laboratories is essential when comparing results from different research projects. Performance should be documented by method evaluation, internal quality control, analysis of certified reference materials and external quality control. At present no commercial proficiency-testing scheme or certified reference material is available for cortisol in saliva. Hence, an inter-laboratory comparison was established for cortisol in saliva.

Method	n	Recovery	95% Confidence interval	Intercept	95% Confidence interval	SD at 10 nmol/L	Natural content of saliva
		%	%	nmol/L	nmol/L	nmol/L	nmol/L
▲ Spectria	5	108	[99 – 119]	8.37	[6.20 – 10.53]	2.84	7.71
● C-A-C*	2	134	[62 – 206]	15.45	[0.43 – 30.48]	2.06	11.53
■ LC-MS-MS	1	91	[76 – 106]	2.70	[-0.49 – 5.88]	1.31	2.96
◆ In-house	1	131	[120 – 143]	9.01	[6.52 – 11.50]	0.89	6.88

\* Including outlying laboratory

## Method

Out of twelve invited laboratories, nine laboratories representing four different methods, participated in the study. Five blinded samples prepared from a pool of natural saliva spiked with a pure certified reference material in the range 0-70 nmol/L were sent to all laboratories.

Reference: Accreditation and Quality Assurance (accepted). The study was supported by The Nordic Council of Ministers.