



VALIDATION OF ANALYSIS : CORTISOL IN HAIR

Aim of analysis

To validate the analysis of cortisol in hair at the Analysis and Conservation Laboratory at Fernand Seguin Research Centre, a comparison between the Technical University of Dresden, Germany, and the Fernand Seguin Research Centre was carried out.

Method

Ten large hair samples were provided from volunteers at the Fernand Seguin Research Centre. One half of each hair sample was sent to the laboratory of Technical University of Dresden, Germany, for analysis. The latter is renowned for its analysis of cortisol in hair. The second half of the hair sample was analysed at the Fernand Seguin Research Center.

Each hair sample was processed through an identical wash and extraction procedure at each location, as described in Kirschbaum et al. (2009). Hair samples were then analysed using a commercially available immunoassay with chemiluminescence detection. An enzyme immunoassay was run alongside using the same extraction.

Results

The results from the Fernand Seguin Research Center showed a high correlation with the results from the laboratory at the Technical University of Dresden (see below)

Mean	Correlations	T.U.D	C.R.F.S.		
			Luminescence 1	Luminescence 2	Enzyme immune-assay
T.U.D*	Pearson correlation	1	.980**	.979**	.902**
	Sig. (2 tailed)		.000	.000	.001
	N=	9	9	9	9
Luminescence 1	Pearson correlation		1	1.000**	.916**
	Sig. (2 tailed)			.000	.000
	N=		10	10	10
Luminescence 2	Pearson correlation			1	.917**
	Sig. (2 tailed)			.000	.000
	N=			10	10
Enzyme immune assay	Pearson correlation				1
	Sig. (2 tailed)				.000
	N=				10

** Correlation is significant at the 0.01 level (2 tailed), T.U.D = Technical University of Dresden, C.R.F.S = Fernand Seguin research center