

not falsely detected on any of the immunochromatographic tests. NIST conducted STR testing on the samples and reported an average peak height (Table3)

Table 3: Summary of results from Phase 1. Immunoassay results for venous blood include a (*) due to differing results from Seratec PMB (+) and RSID Blood (-) tests. For details about sample preparation refer to Table 1.

Sample	Body Fluid	Concentration	STR		Immunoassays (DLI) Successful / No crossreactivity (Yes/No)	DNA Methylation (FIU) Successful (Yes/No)	mRNA (UCF) Successful (Yes/No)	Shotgun Proteomics (UC Davis) Successful (Yes/No)
			DLI(Profile)	NIST (Avg PH)				
1	Semen	High	Full	11032	Yes	Yes	N/A	No
2				10794		Yes	Yes	
3				12423		Yes	Yes	
4		Low	Partial	578	Yes	No	N/A	Yes
5				5764		No	Yes	
6				1684		No	No	
7	Venous Blood	High	Full	10975	Yes	Yes	N/A	Yes
8				15201		Yes	Yes	
9				10469		Yes	Yes	
10		Low	Partial	0	Yes*	Yes	N/A	Yes
11				0		Yes	Yes	
12				0		Yes	Yes	
13	Saliva Spit in Cup	High	Partial	10598	Yes	Yes	N/A	Yes
14				9900		Yes	Yes	
15				8761		Yes	Yes	
16		Low	Full	2190	No	No	N/A	Yes
17				2889		Yes	Yes	
18				0		No	No	
19	Saliva Swab Slurry	High	NR	6440	Yes	Yes	N/A	Yes
20				10249		Yes	Yes	
21				8579		Yes	Yes	
22		Low	NR	620	Yes	No	N/A	Yes
23				355		No	No	
24				0		No	No	
25	Vaginal Fluid Soft Cup	High	Full	12872	Yes	Yes	N/A	Yes
26				10602		Yes	Yes	
27				8716		Yes	Yes	
28		Low	Full	11162	Yes	Yes	N/A	Yes
29				9061		Yes	Yes	
30				10837		Yes	No	
31	Vaginal Fluid Swab Slurry	High	Full	13775	Yes	Yes	N/A	Yes
32				13759		Yes	Yes	
33				15998		Yes	Yes	
34		Low	Partial	478	Yes	Yes	N/A	Yes
35				0		Yes	No	
36				0		Yes	No	
37	Menstrual Blood	High	Full	6938	No	Yes	N/A	Yes
38				10151		Yes	No	
39				11552		Yes	Yes	
40		Low	Full	11340	No	Yes	N/A	Yes
41				7860		Yes	Yes	
42				9804		Yes	No	

In light of the findings, it was evident that sample preparation should closely emulate conditions encountered in a forensic exhibit. Therefore, in phase two, no dilution with water was implemented, and swab slurry was abstained from.

