

Sensitivity of RapidHIT ID with RapidINTEL Cartridge vs RapidHIT 200 Run Other Protocol

Authors: **Robert O'Brien, Tylor Barnhart, Lisbeth Colon, and Ines Iglesias-Lee**

Correspondence: robrien@fiu.edu

METHODS

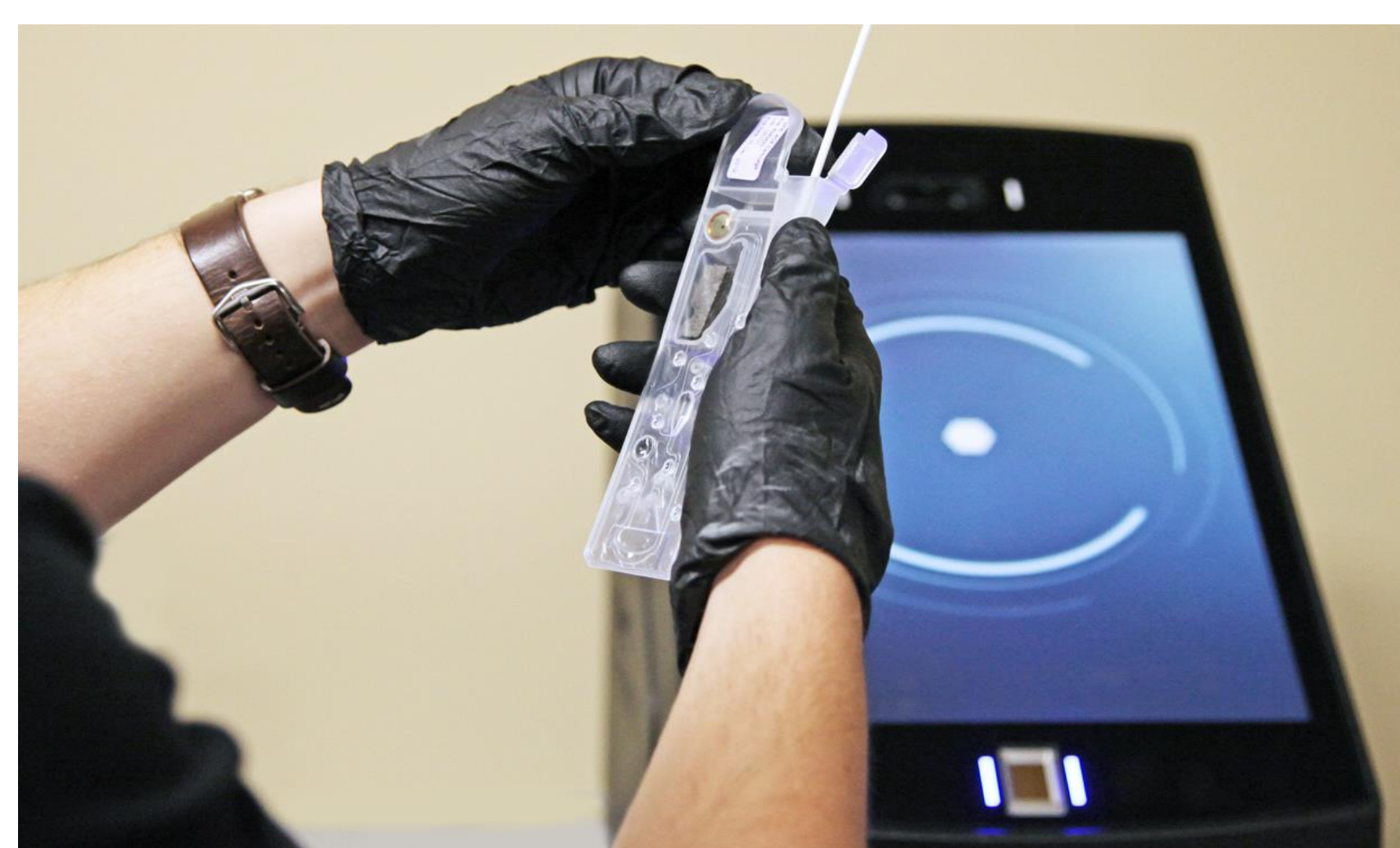
Volumetric Sensitivity

Liquid blood was collected from five different donors, spotted onto cotton swabs in the following volumes: 4ul, 2ul, 1ul and 0.5ul, and run in triplicate on the **RapidHIT ID** and **RapidHIT 200**.

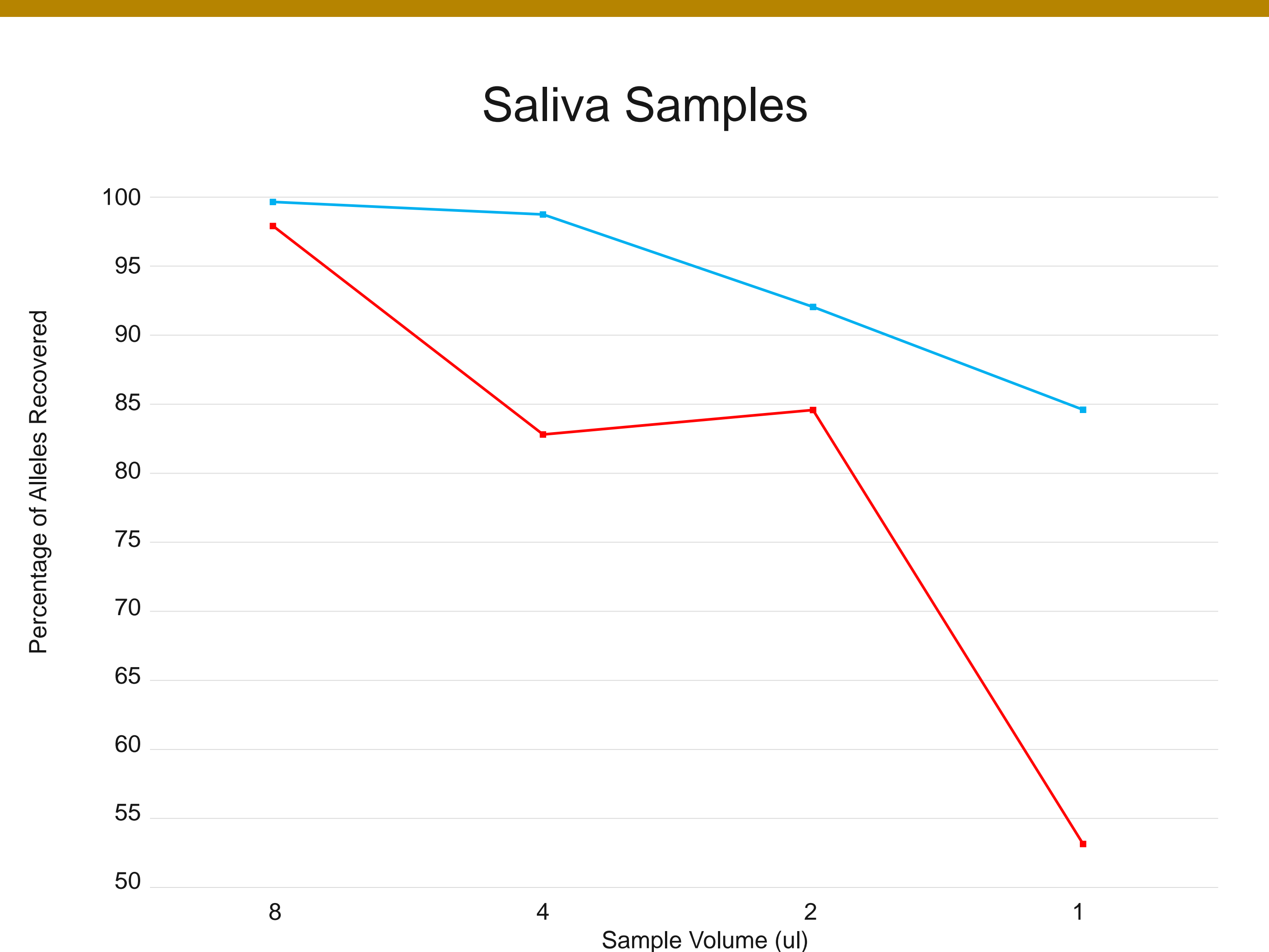
Liquid saliva was collected from five different donors, spotted on cotton swabs in the following volumes: 8ul, 4ul, 2ul and 1ul, and run in triplicate on the **RapidHIT ID** and **RapidHIT 200**.

Total DNA Sensitivity

Blood was collected from one donor and applied to cotton swabs so the total amount of DNA on the swabs were 1280ng, 640ng, 320ng, 160ng, 80ng, 40ng, 20ng and 10ng. These were run in triplicate on the **RapidHIT ID** and **RapidHIT 200**.

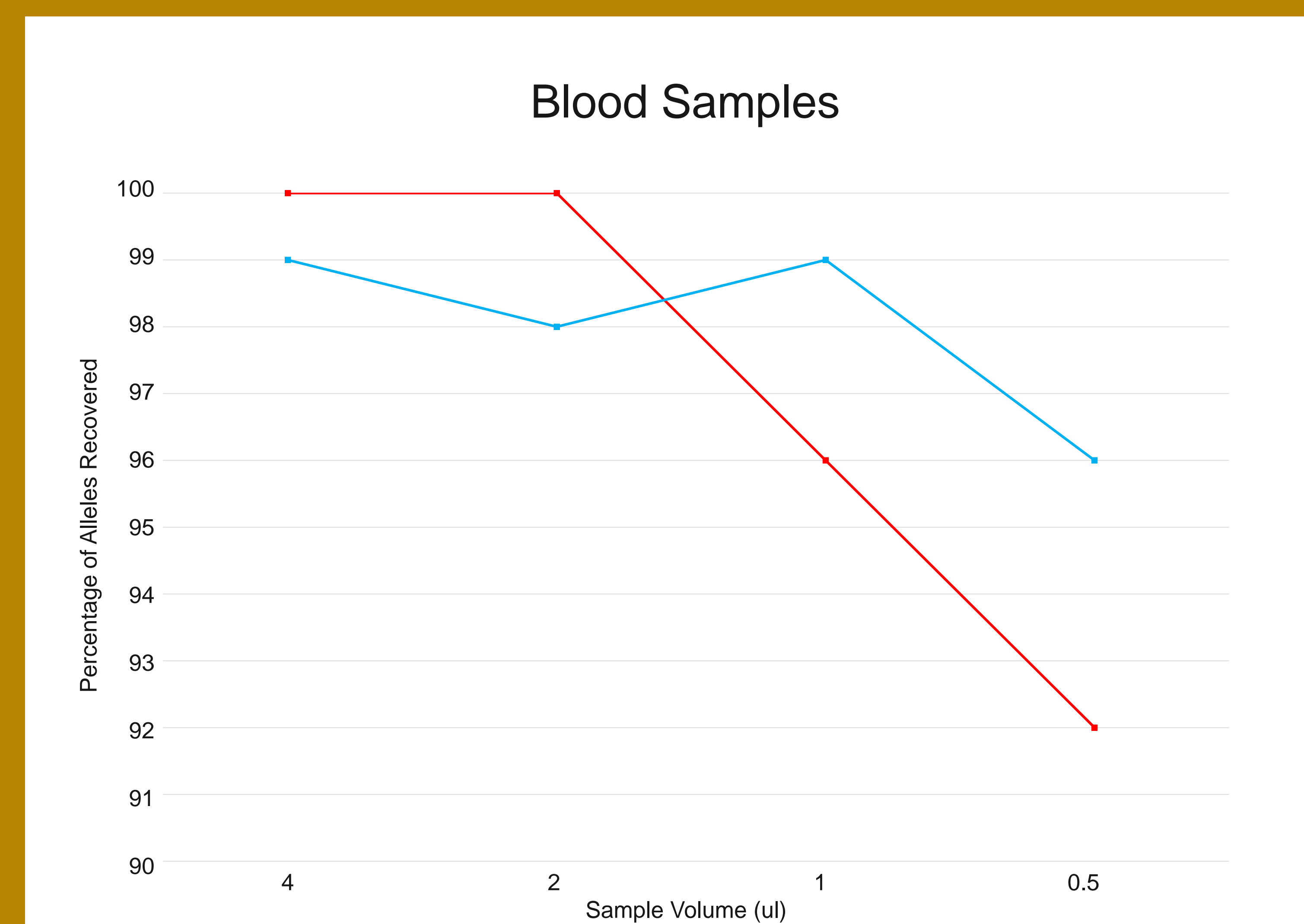


RapidHIT ID sensitivity is comparable to the RapidHIT 200 for low level sample types.



Saliva samples, volumes 8ul to 1ul

RapidHIT ID (blue) gave a higher percentage of alleles than **RapidHIT 200 (red)**



Blood samples, volumes 4ul to 0.5 ul

RapidHIT ID (blue) gave a higher percentage of alleles than **RapidHIT 200 (red)**

TOTAL DNA SENSITIVITY

RapidHIT ID results were compared with results from **RapidHIT 200**, in the total quantity of input DNA ranging from 1280ng to 10ng.

		Replicate		
		1	2	3
1280 ng	200-O		19/21	
	RI			
640 ng	200-O			
	RI			
320 ng	200-O			
	RI			
160 ng	200-O			18/21
	RI			
80 ng	200-O			
	RI			
40 ng	200-O			
	RI			
20 ng	200-O		20/21	
	RI	20/21	18/21	20/21
10 ng	200-O			
	RI			17/21

200-O = RapidHIT 200 Run Other Protocol
RI = RapidHIT ID with RapidINTEL Cartridge
Green = Full profile

Note: All profiles obtained were concordant with results generated for the same samples using 3500 and SeqStudio Genetic Analyzers.

National Forensic Science Technology Center, a department of Florida International University

8285 Bryan Dairy Road, Suite 125, Largo, FL, USA 33777

NFSTC@FIU
Science Serving Justice
nfstc.org