

## EXTRACTING DNA FROM BLOOD AND SALIVA WITH THE SOLO AUTOMATED PIPETTOR

### Introduction

Extracting DNA from Blood and Saliva is an essential but time consuming task required to support a variety of downstream processes. DNA extractions typically require manual processing, significant capital equipment, or implementation of single-purpose instrumentation with limited capability.

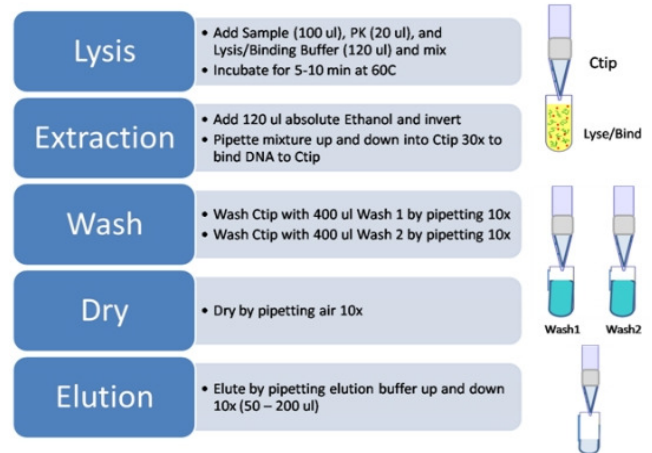
Hudson Robotics has developed a fully automated, turnkey solution for DNA extractions using the Solo automated pipettor. Hudson's automated solution utilizes the proven SingleTip DNA extraction technology. SingleTip is a simplified DNA extraction process that utilizes an adapted pipette tip to capture the desired DNA and facilitates washing and elution of the product.

### Features

Automating the SingleTip process removes variability in protocol execution and can facilitate precise sample tracking.

- 1-8 samples per run
- 30 mins per run
- Easy to use
- No columns, magnetic beads or centrifuges needed

### Method



### Results

DNA yields from blood can be patient dependent. We selected two patients (A and B) for our DNA from blood extraction test. In one experiment, 4 DNA extractions from Patient A were run in parallel. The resulting average DNA yield was 7.5ng/uL, with a standard deviation of 1.3ng/uL. In a second experiment, 2 samples from Patient A and 2 samples from patient B were processed in parallel. The samples extracted from Patient A averaged 8ng/uL and the Patient B samples averaged 11ng/uL. Performance for DNA extractions from Saliva was tested with four samples from patient A. The average yield was 19.75ng/uL with a standard deviation of 1.5ng/uL.

These results are summarized in the following tables:

## Blood Extractions

100 µl input, 100 µl elution

Blood Set	DNA Reading	Estimation Concentration	Cq Value (qPCR)
Patient A	15799	8 ng/µl	
	18630	9 ng/µl	
	13906	7 ng/µl	
	13268	6 ng/µl	
	41886 (Ref 20 ng/µl)		
Patient A	18056	8 ng/µl	26.07
	16347 (duplicate)	8 ng/µl	26.34
Patient B	23898	11 ng/µl	25.64
	24191 (duplicate)	11 ng/µl	25.48
	42819 (Ref 20 ng/µl)		

Figure One: Blood extraction results

## Saliva Extractions

100 µl input, 100 µl elution

Saliva Set	DNA Reading	Estimated Concentration
Patient A	32851	19 ng/µl
	33107	19 ng/µl
	32770	19 ng/µl
	42606	22 ng/µl
	35509 (Ref 20 ng/µl)	

Figure Two: Saliva extraction results

## Cq Values

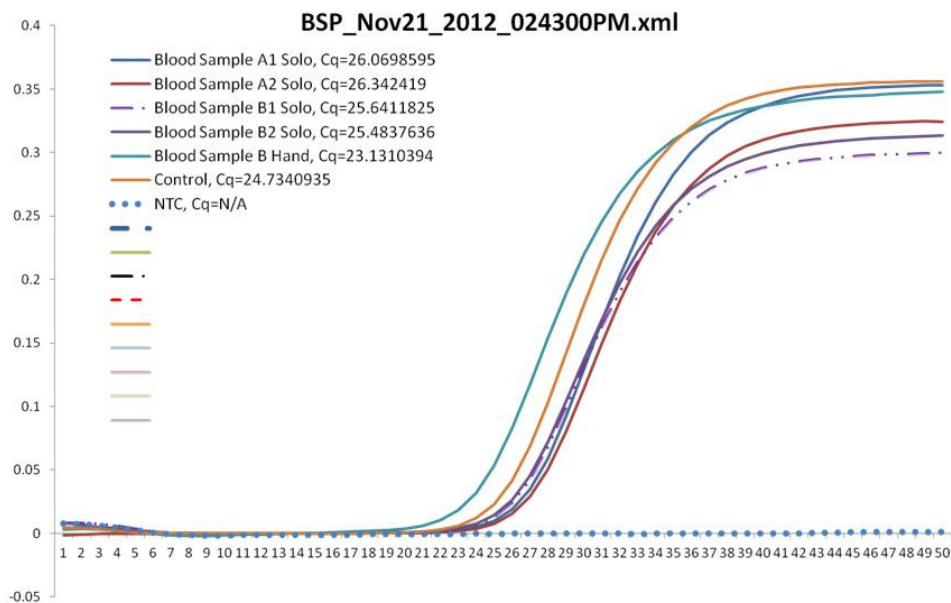


Figure Three: Cq results from qPCR

### Conclusion

The Solo provides a repeatable and reliable platform for performing SingleTip DNA extractions. To learn more about this application or how the Solo can work for you, please contact us.

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