

SPRI automated gDNA extraction from iSWABs

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iSwab from Mawi DNA Technologies

- Buccal swabs
- Comb in the cap of the collection tube, so cells are scraped off into in a preservative
- No need to squeeze or clip swabs

– <http://mawidna.com/>



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SPRI Extraction of iSwabs

- Both gDNA extraction kits were used
 - DNAdvance (designed for mammalian tissue)
 - Genfind v2 (designed for whole blood)
- Biomek automated methods used for both
- Only part not automatable is aliquoting sample to plates from the iSwab tube.
 - The comb necessitates manual pipetting with a p200 to get most of the sample
 - Everything else is straight forward

DNAdvance

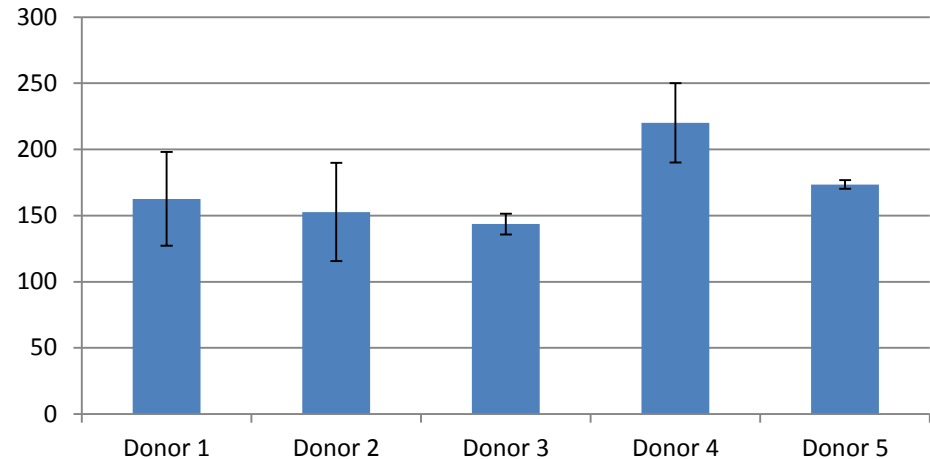
- Automated 96MC method adapted for higher input volume to accommodate liquid sample (A48708)
- Per well:
 - 300uL Sample + 193uL Lysis + 7uL Proteinase K
- Digest at 37C for 1hr
- Run Settings

Step 0: Lysate Vol:	500				
Step 1: Bind Buf Vol:	200	Shake Sec:	60		
Bead Vol:	340	Shake Sec:	90	Inc Min:	1
				Settle Min:	10
Step 2: Ethanol Vol:	700	Shake Sec:	120	Settle Min:	3
				Cycles:	3
Step 3: Elution Vol:	50	Shake Sec:	60	Settle Min:	5
				Transfer Vol:	45

DNAdvance Results

- Modified run settings and DNAdvance 96MC method works very well
- Single plate 1 hour

iSwab DNAdvance Yields (ng/uL)



Genfind v2

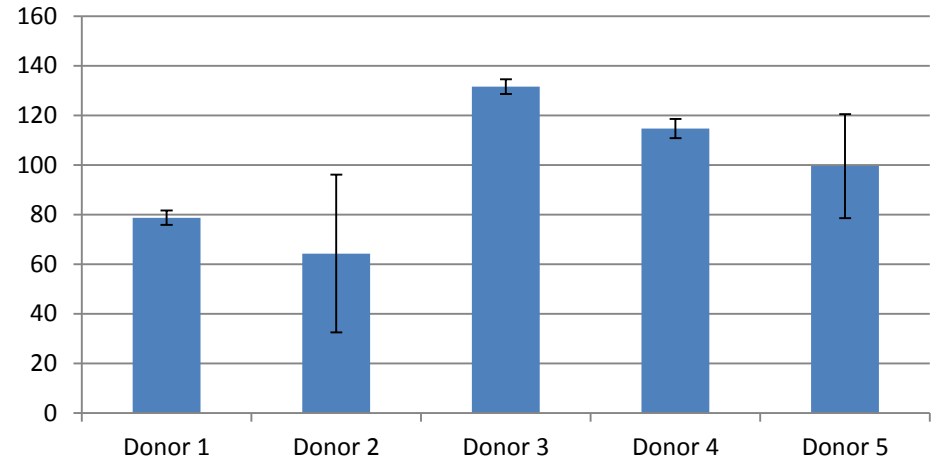
- 300uL input
- Default Span8 Method (A42569)
 - Elution in 50uL

Genfind v2 Results

- Default Span8 method works very well
- Lower Yields than DNAdvance, likely due to shorter lysis at Room Temperature

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iSwab Genfind Yields (ng/uL)



Comparison of the two Kits

- Both DNAdvance and Genfind v2 Successful!
- Higher yield from DNAdvance likely due to lysis:
 - 37C 1hr vs Room Temperature 30min on deck

