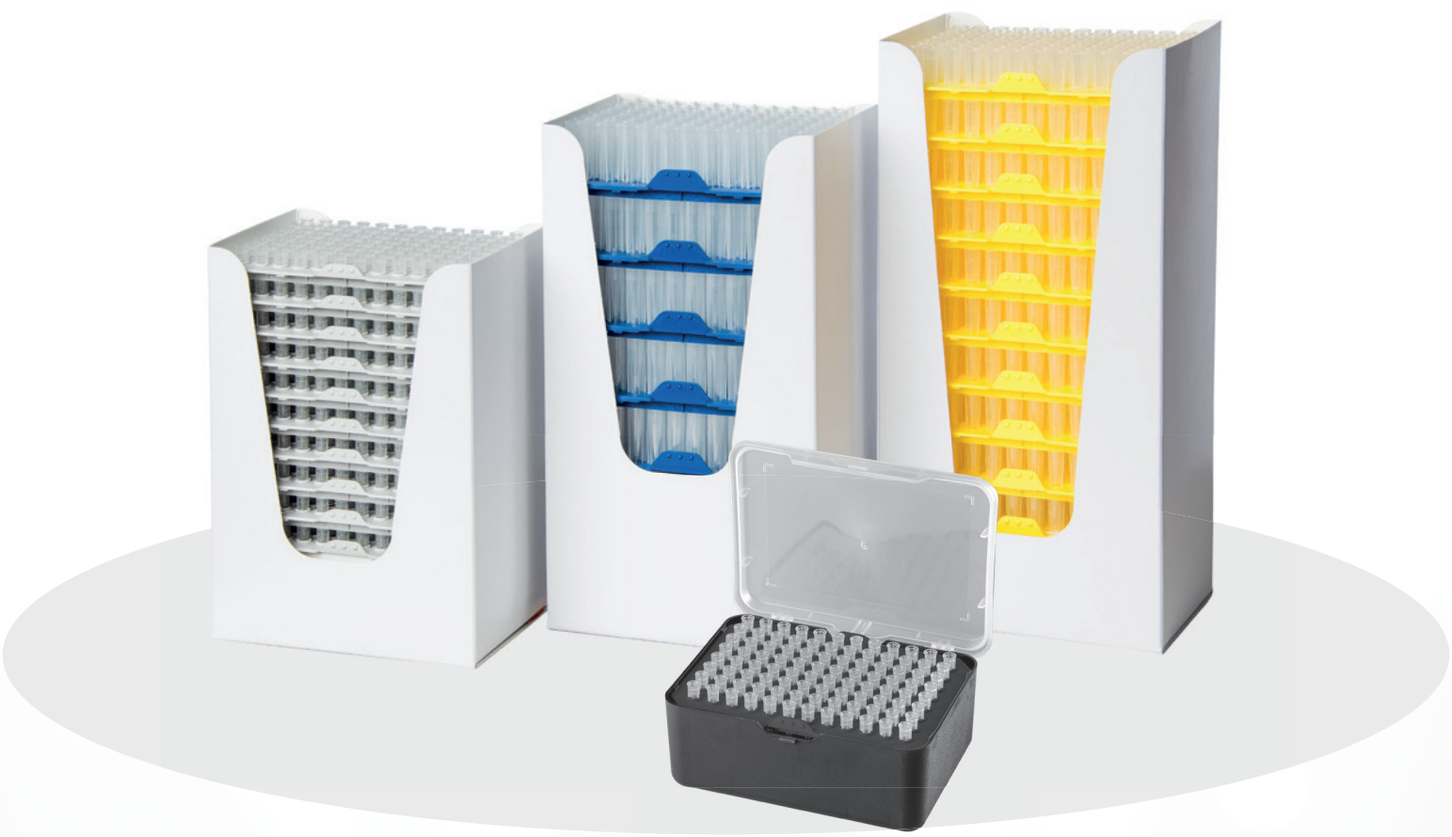
ahn®



AHN PIPETTE TIPS

Delivering precision and accuracy in every drop

AHN pipette tips ensure the performance and reliability of your results like no other. Inaccuracy results in non-reproducible data if experiments are repeated by other groups using other consumables. AHN guarantees perfect, accurate and reliable pipetting results.

AHN tips have been designed and manufactured to meet the highest quality standards. High-quality raw material and consistent process manufacturing along with rigorous quality control formulate our AHN tips to provide your assay to meet the required system suitability criteria and confidence

AHN pipette tip at a glance

PERFECT FIT

AHN pipette tips are designed to perfectly fit your pipettes

HIGH QUALITY

Manufactured in 100k clean room facility free from DNase, RNase and Pyrogen

GRADUATION

For exceptional clarity for volume

LOW RETENTION

For dispensing every drop of sample

COMPARATIVE STUDY ON THE PERFORMANCE OF AHN BRANDED TIPS VIS-A-VIS COMPETITORS

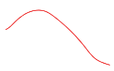
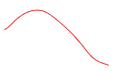
Objective

To understand recovery of standard DNA sample and calculate accuracy percentage and uncertainty of dilution using AHN tips and competitors' tips.

Introduction and Background

Molecules like DNA/RNA and Protein tend to bind to polypropylene pipette tips leading to errors and transfer losses and cross contamination. Therefore, it is very important that expelled valuable molecules from pipette tips don't retain or stick to the tip surface. As highly sensitive research methods such as real-time PCR and mass spectrometry were developed to assist detection and quantification demands precision. All these assays efficiency is dependent on the relative concentration of nucleic acid, enzyme and other reactant.

Spectrophotometry is a very popular method for nucleic acid quantification as it is a simple, accurate and non-destructive method for measurement of nucleic acid over range of concentration. We used synthetic desalted ssDNA oligo purchased from Sigma Aldrich with astock concentration of 1882.702 ng/µl for this study. The details are given below

SPL 1	SPL 2	Well ID	
		Spectrum	
1.787	1.798	260/2	
1883.666	1881.738	ng/µl	1882.702

We analysed tips from different manufacturer and checked the accuracy percentage by diluting stock solution to 1000ng/ml and checked accuracy using linear regression curve by using Biotek (Now Agilant) take3™ plate

Materials and method

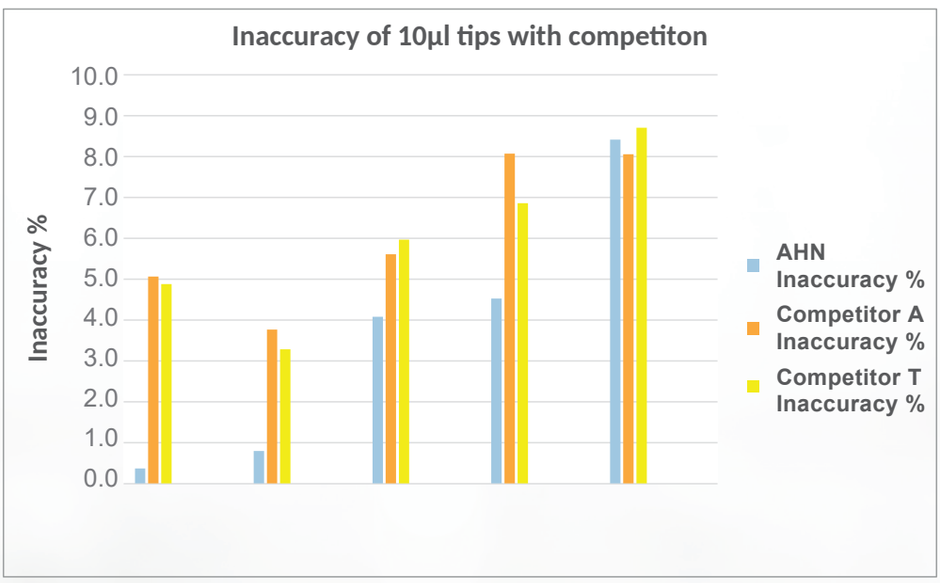
1. AHN 10µl Universal graduated tip - Lot No - 1RCG2300R
2. Competitor A Micro tips 0.2-10µl Graduated Natural - Lot No - P10115
3. Competitor T Micro tips 0.2-10µl - Lot No - JT-011118
4. ssDNA from Sigma
5. Nuclease free water
6. Take3™ biotek plate
7. 0.5-10µl AHN *my*Pette Pro Pipette
8. Cytation 5 Imaging multi mode reader

Stock concentration of ssDNA was diluted to 1000ng/ml, which was then used to prepare 5 point dilution with different manufacturers' tips in the volume range of 2µl, 4ul, 6µl, 8µl, 10µl and was read at 260/280nm to calculate DNA concentration to compare the accuracy percentage difference and random error. Sample was loaded in duplicate (n=2) to understand the difference in random error.

Result and Discussion

AHN 1-10µl tip			Competitor A 1-10µl tip			Competitor T 1-10µl tip		
Mean	CV (%)	Accuracy (%)	Mean	CV (%)	Accuracy(%)	Mean	CV (%)	Accuracy(%)
200.732	0.274	0.4	210.127	0.569	5.1	209.757	0.34	4.9
396.833	0.044	0.8	384.937	0.504	3.8	386.871	0.493	3.3
575.52	0.085	4.1	566.337	0.474	5.6	564.195	0.328	6.0
763.802	0.256	4.5	735.396	1.124	8.1	745.115	0.919	6.9
915.827	0.017	8.4	919.39	0.272	8.1	912.89	0.662	8.7

Above mentioned table calculates Accuracy percentage deviating from theoretical concentration where accuracy of AHN tip is consistently better than competitors tips. This is achieved purely on the basis of design of 10µl tip where concentricity of flow of liquid through volume range is linear and the lower.



GRAPH 1

Graph 1: Inaccuracy of AHN pipette 10µl tips is lower than that of competitors tips across all the volume range. Lower inaccuracy combined with lower error percentage give better results and guarantee repeatability of assay while complying with system suitability criteria with validated assay protocol.

GRAPH 2

Graph 2: AHN tips showed lower inaccuracy percentage, better recovery of DNA and random error is within acceptable range. Error bar is very minor showing homogeneity and consistency in tips where all tips aspirate and dispense required volume of sample with excellent consistency which can also be observed from CV percentage (Coefficient of variation percentage) in the above Graph. While competitor A and competitor T 1-10µ l tips indicate inconsistency in the volume of liquid expelled proving less homogeneity between tips yielding higher error bar and higher inaccuracy.

Conclusion

AHN tips are certainly viable option for performing very sensitive application such as PCR, Nucleic acid and protein quantification where inconsistency in pipetting can yield inaccurate result jeopardising your precious sample and assay. AHN tips had better consistency, accuracy and precision compared to other 2 competitors tips.

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