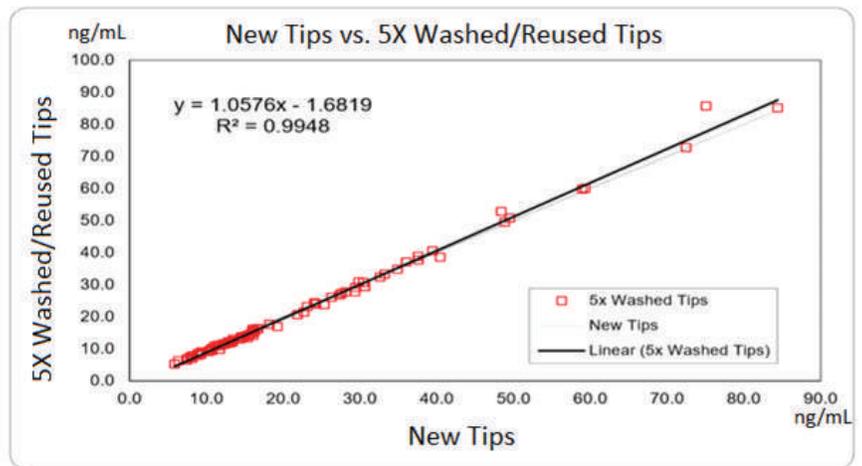


## NOVEL TIPNOVUS VALIDATION DECREASING ELISA COST

Enzyme-Linked Immunosorbent Assays (ELISA) are multi-step protocols employing several pipette tips in each step, adding to overall cost and plastic waste. Pipette tip cost is not only limited to initial expense, but incurs biohazardous waste disposal expenditures, as well. ELISA validation was performed washing and reusing Hamilton CO-RE pipette tips five times for FDA approved BGM Galactin-3® ELISA testing in a CLIA and CAP certified laboratory using Grenova’s TipNovus patented cleaning technology systems. This technology decreased overall cost per clinical diagnostic test, resulting in an increased profitability margin. Driving down expense, the lab also decreased plastic waste that would have otherwise been treated as biohazardous material.

### ANALYTICAL SPECIFICITY METHOD

A serum pool with a low concentration was prepared and dispensed into 79 aliquots. Samples were diluted and transferred using a rack of new tips. Subsequent transfers were performed using pipettes washed with Grenova's system. This was repeated several times resulting in a final validation of five total uses per pipette tip. The prepared dilution plates were analyzed, then data was reviewed and compiled for validation verification.



### OVERALL VALIDATION CONCLUSION

Results were congruent with initial aim and met criteria as laid out in the established validation method. BGM Galectin-3® Test is an FDA 510K-cleared in vitro diagnostic device. This study demonstrates the reliability of washed tips using Grenova’s patented technology to be free of carryover for re-use.

### RESULTS:

WASH/STERILIZE/DRY TIPS		STORE IN STERILE ENVIRONMENT
TIP REUSE	% SAVINGS	
2x	50%	
3x	66%	
4x	75%	
5x	80%	
10x	90%	
15x	93%	
25x	96%	



**MODEL. A**  
12-16 RACKS/HR.  
STORE 45 RACKS  
35"(L) X 30"(D) X 70"(H)



**MODEL. B**  
16-24 RACK/HR.  
STORE 45 RACKS  
35"(L) X 30"(D) X 68"(H)

## COMPACT & HIGH THROUGHPUT PIPETTE TIP WASHING STATIONS



**MODEL. C**  
32-40 RACKS/HR.  
35"(L) X 30"(D) X 68"(H)



**MODEL. D**  
16-24 RACKS/HR.  
STORE 45 RACKS  
35"(L) X 30"(D) X 78"(H)

**GO GREEN! SAVE GREEN! WITHOUT COMPROMISE!**