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ELIMINATE  
**FILLAPHOBIA**  
IN OUR TIME

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# Eliminating **FILLAPHOBIA** from your lab

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# Presentation Overview

- Introduction
- Lab Observations
- What is **FILLAPHOBIA**?
- The Cure for Fillaphobia:
  - WellAware Pipet Navigation Systems
  - How Can WellAware Help?
- How WellAware Works

# Lab Observations

## Every Lab Requires:

- Instrumentation
- Validated Procedures or Protocols
- Proper Training
- Information Management Systems
- Proper Use of Controls & Standards
- Proper Tracking of
  - Reagents
  - Lot Numbers
  - Samples

# Lab Observations

## Most Labs:

- Are Busy Working “In the Lab” rather than “On the Lab”
- Are Hesitant to Convert from Tubes to Plates or 96-well to 384-well
- Are Anticipating a Significant Increase in Samples
- Are Not Using Bar-coding for Sample Tracking
- Are not addressing pipetting ergonomics
- Don't Enjoy Change
- Have Significant Cost Constraints
- Use spreadsheets for sample loading



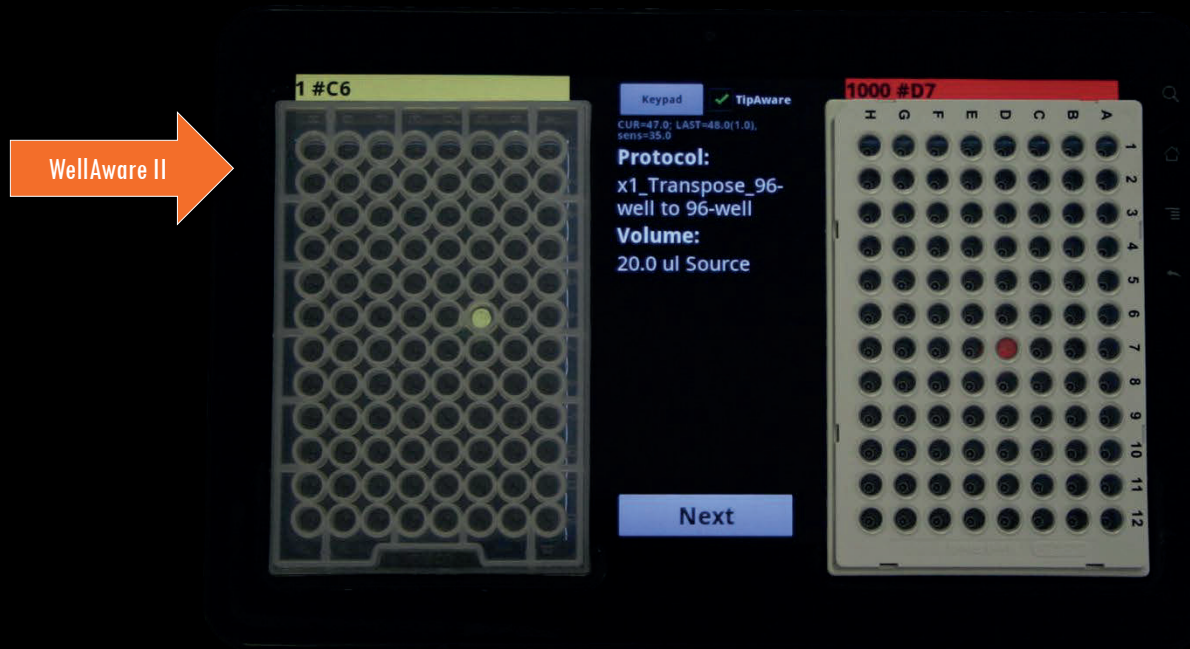
# Fillaphobia:

The persistent fear real or imagined, in a lab of accidentally or distractedly or negligently pipetting or placing a sample into the wrong well of a microplate that leads to a compelling desire to avoid all pipetting.



# The Cure: WellAware Pipet Navigation Systems

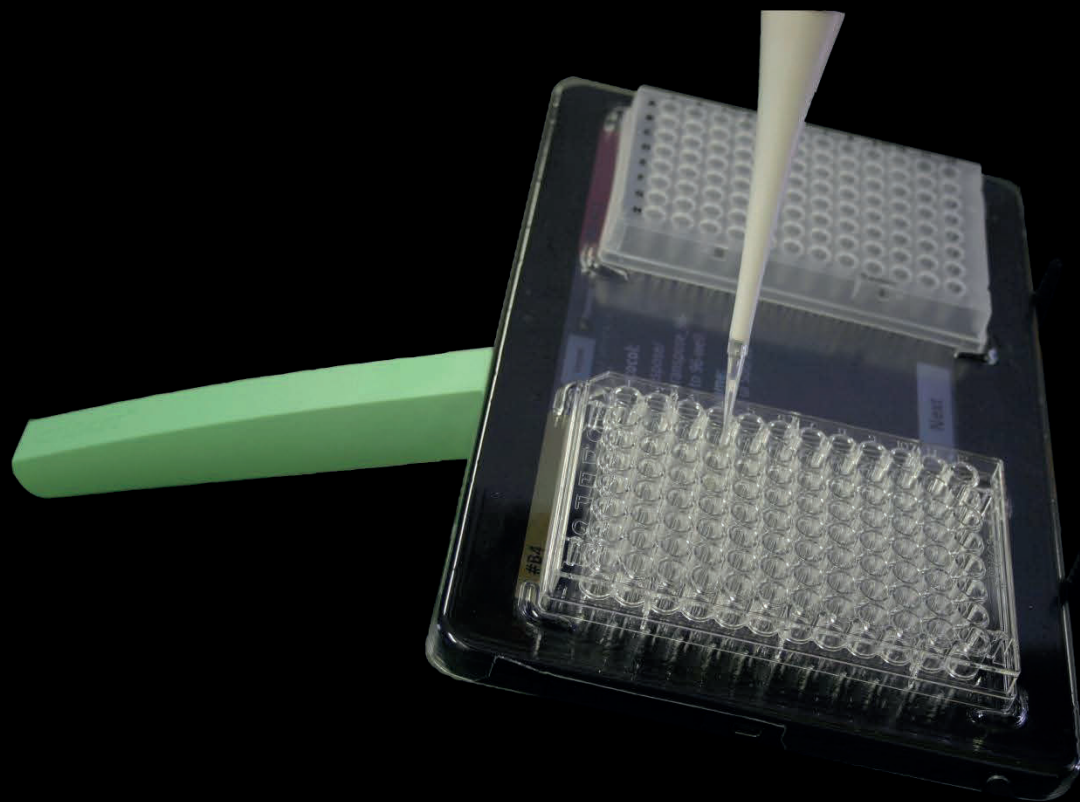
**Eliminates Costly Errors:** Displays the current step, lights up under the active microplate wells during pipetting and displays the current plate numbers along with the correct volume for the operator to dial into their pipettor.




**Reduces Stress:** Following visual and voice prompts speeds pipetting while providing confidence that the protocol will be pipetted correctly every time.



**Improves Ergonomics:** WellAware can be controlled hands-free using the TipAware Light sensor, a touch-screen or foot switch. Our slate and tablet PCs can be adjusted to provide a stable and comfortable platform for pipetting.



**Documents all steps:** All pipetting steps and lab protocols are documented with **time-stamped electronic Standard operating Procedures (eSOPs)**.



Start Pipetting

Clear Form

Insert Row

Load Saved

Move eSOP

Save

Add Plates

Make Plate Map

Delete Row

Sort Column


Rename eSOP

Print

test.xls

Exit

Source Plate Number (Barcode)	Timestamp	Source Row	Source Column	Source Volume/ Action (Time) (sec)	Source Label/ Action Message or Data	Source Plate Type Action Select	Destination Plate Type	Destination Plate# (Barcode)	Destination Row	Destination Column	Multi-channel Pipet Sync	Pipet ID
Patient 1	1/29/2008 11:12:54 AM_JDF			30.0	ul of 3.75ul Sample/26.26ul Diluent	Barcoded source	384-Well	123	P	1		
Patient 1	1/29/2008 11:12:59 AM_JDF			30.0	ul of 3.75ul Sample/26.26ul Diluent	Non-barcoded source	384-Well	123	O	1		



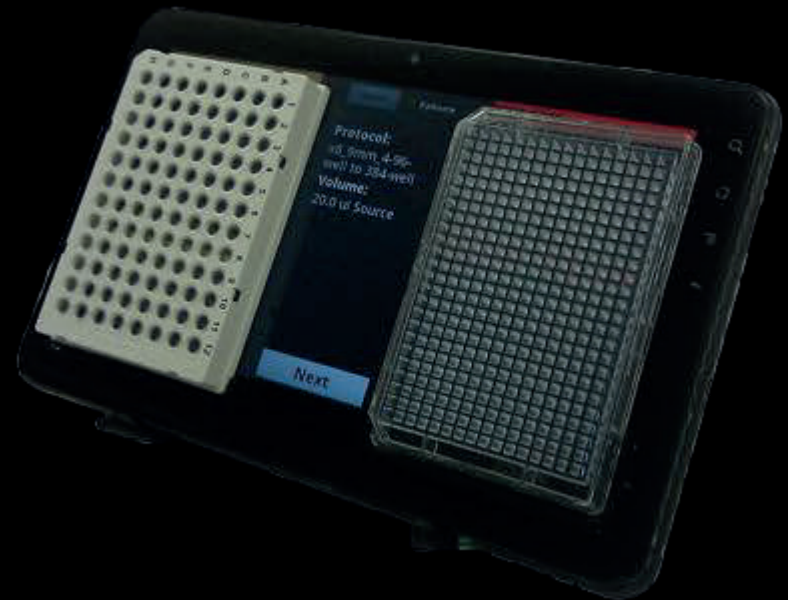
## Eliminates double entry of data:

- Works with barcoded tubes, vials and microplates.
- Integrates with ABI real time PCR instruments and spectrophotometers
- Easily customized for complex protocols
- Can be used to control and/or passes data to other lab instrumentation like LIMS/LIS systems and liquid handling robots.



# WellAware: What it can do

- Sample Sorting
- Accessioning of Samples
- PCR & Sequencing Setup
- Normalization of samples to a standard concentration
- Dilutions
- Real Time PCR Setup
- ELISA Processing
- Backup for fully automated labs
- Hit/Cherry Picking



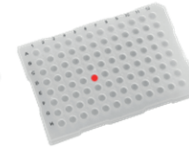
# WellAware II: Pipetting & Sorting



When you have barcoded vials, tubes, swabs or other items that you wish to sort into specific wells of a 96-well or 384-well microplate, WellAware II's barcode button is what you will want to use.



Scan or type the barcode and the correct well is lit.



Once the sample has been transferred to the lit well, hit the next button or discard the pipet tip over the TipAware sensor to advance the software.

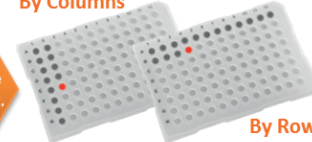


Use Accessioning when you wish to fill a microplate in a specific order (by rows or columns). Use Accessioning for vials, tubes, swabs or other items that you wish to associate with specific wells of a 96-well or 384-well microplate. Upon completion of the Accessioning eSOP, the log file can be used as a record of the wells that each sample was placed in. The log file can be downloaded to a LIMS or robot and has a record of the microplate wells associated with the vial numbers or barcode values.



Scan or type the barcode and the correct well is lit.

By Columns



By Rows

Once the sample has been transferred to the lit well, hit the next button or discard the pipet tip over the TipAware sensor to advance the software.

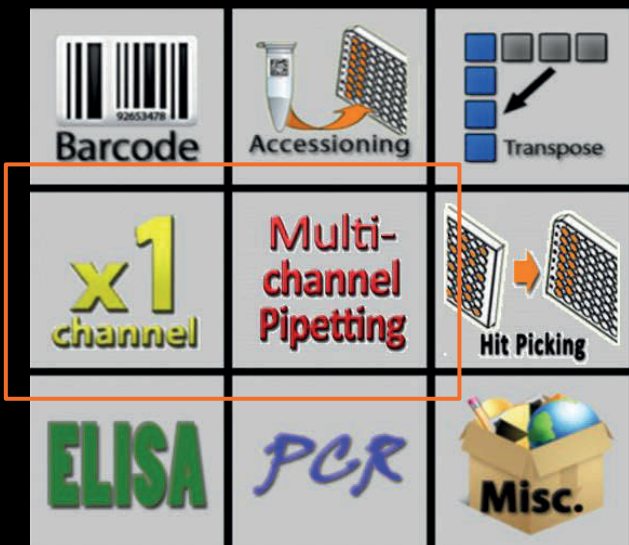


Transpose is used when you want to move samples from one 96-well plate in the column orientation to a new plate in the row orientation or vice versa. Single channel and 8-channel pipetting eSOPs are included with WellAware II.

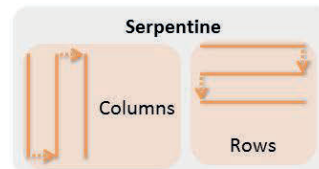
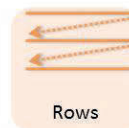


Hit "Next" or use the TipAware to advance to the next step.





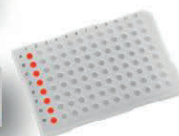
x1 Channel button is used when you want to move samples one at a time from one 96-well or 384-well plate in the column or row orientation to a new plate in the same orientation. The following single channel pipetting operations are included with WellAware II:



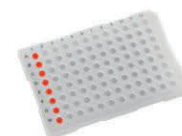
Hit "Next" or use the TipAware to advance to the next step.



x8 Channel is used when you want to move samples eight at a time from one plate in the column orientation to a new plate in the same orientation.



Hit "Next" or use the TipAware to advance to the next step.

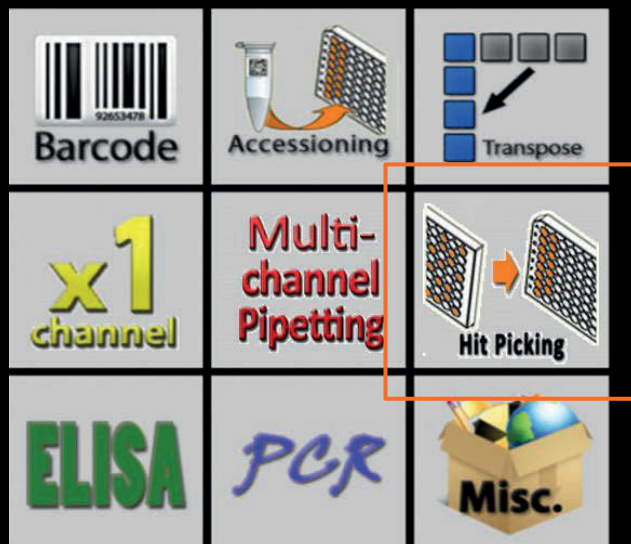


x12 Channel is used when you want to move samples twelve at a time from one plate in the row orientation to a new plate in the same orientation.



Hit "Next" or use the TipAware to advance to the next step.

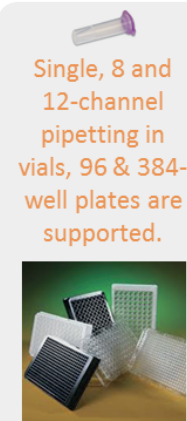




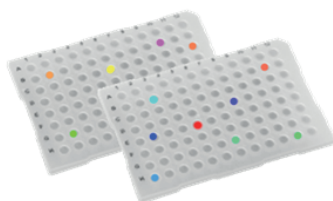
Hit picking can be used to program WellAware II for many types of lab protocols. A comma delimited file is used to define each step of a lab protocol. These files can be used to define PCR, ELISA, sequencing, hit picking or sample sorting protocols.

A sample WellAware II text file is shown below:

Source Plate Type	Source Channels	Source Well	Source Plate ID	Volume (uL)	Dest Plate Type	Dest Channels	Dest Well	Dest Plate ID
1	1 A1	Vial 1		20	1	1 A1		Vial 2
96	1 A1	Plate 1		5	96	1 H12		Plate 100
96	1 A2	Plate 1		5	96	1 H11		Plate 100
96	1 A3	Plate 1		5	96	1 H10		Plate 100
96	1 A4	Plate 1		5	96	1 H9		Plate 100
96	1 A5	Plate 2		5	96	1 H8		Plate 100
96	1 A6	Plate 2		5	96	1 H7		Plate 100
96	1 A7	Plate 2		5	96	1 H6		Plate 100
96	1 A8	Plate 3		5	96	1 H5		Plate 100
96	1 A9	Plate 4		5	96	1 H4		Plate 100
nc	1 A10	Plate 5		5	nc	1 H3		Plate 100

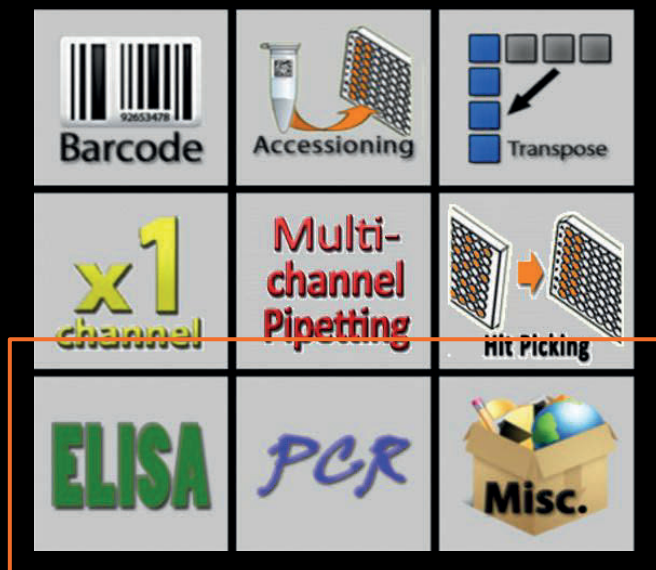


Single, 8 and 12-channel pipetting in vials, 96 & 384-well plates are supported.



Hit "Next" or use the TipAware to advance to the next step.

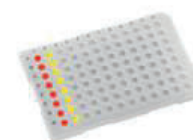




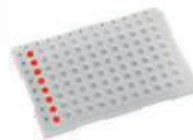
An example ELISA protocol is provided in WellAware II. BioTX offers custom protocols for a nominal fee.



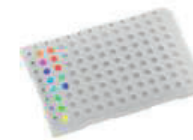
Hit "Next" or use the  
TipAware to advance



Several PCR and real time PCR protocols are provided with WellAware II. BioTX offers custom protocols for a nominal fee.



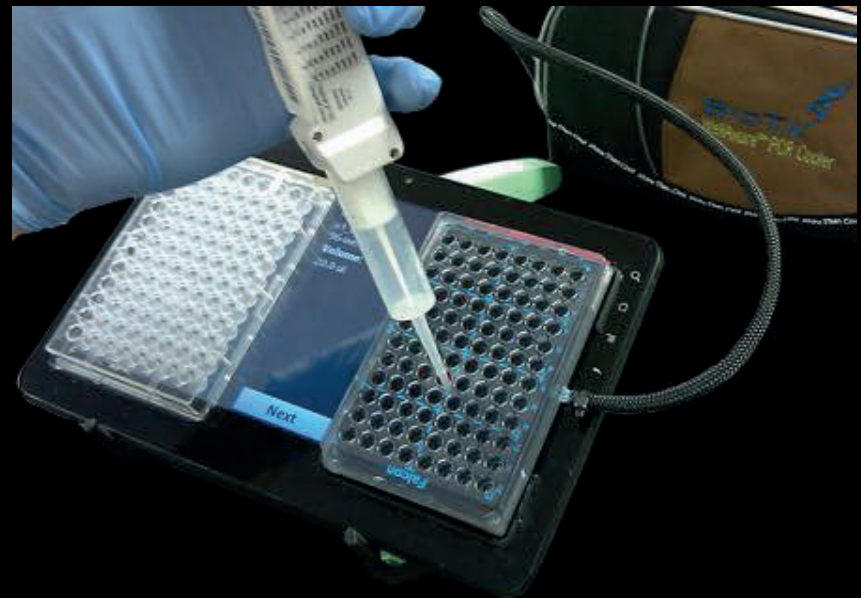
Hit "Next" or use the  
TipAware to advance



These eSOPs don't fit in any of the other categories. 96-well and 384-well screen adjust protocols and a RiboGreen protocol are provided with WellAware II. BioTX offers custom protocols for a nominal fee.

# WellAware II: Accessories

- TipAware Light Sensor
- USB Barcode Imager
- PCR Cooler
- Universal Mixing Plate



# WellAware II Android Tablet Apps





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