

Luminex[®]

Package Insert | RUO

MAGPIX[®] Calibration Kit

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MAGPIX® Calibration Kit

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Key to Symbols

	Use-by date		Temperature Limit
	Batch Code		Contains Sufficient for <n> Tests
	Catalog(ue) Number		Keep away from sunlight.
	Manufacturer		Consult instructions for use
	Research Use Only. Not for Use in Diagnostic Procedures.		

For use with the MAGPIX® System and xPONENT® Software

Kit Components

Kit Components	REF
Luminex® MAGPIX® Calibration Kit  25	MPX-CAL-K25
25 strip wells	13-52047
MAGPIX® Calibration Kit CD	89-20233-00-001
MAGPIX® Calibrator Microspheres, 6 mL	MPXCAL-05

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Description

The MAGPIX® Calibration Kit calibrates the optics of the MAGPIX System. This product should not be used in place of the assay calibrators or assay controls that are required to verify the proper function of a given assay.

This calibration kit is to be used with the off-plate reagent block provided with the MAGPIX instrument.

Introduction

The MAGPIX® Calibration Kit contains all reagents needed for calibration of the MAGPIX platform with xPONENT® software.

The MAGPIX System operates by using magnetic microspheres that are coated with a reagent specific to a particular bioassay, allowing the capture and detection of specific analytes from a sample. The sample mixture is aspirated by the sample probe and conveyed by drive fluid into an imaging chamber. Within the chamber, LEDs excite the internal dyes that identify each microsphere's color signature and the reporter fluorescence from the surface of the microspheres. The reporter fluorescence identifies the analytes captured during the assay. After MAGPIX makes images of the microspheres in the chamber, the microspheres are flushed to the waste container, clearing room for the next sample.

For the optics to function effectively and for different MAGPIX Systems to report similar results, it is important to calibrate the system. Calibrating the MAGPIX System normalizes the settings for the classification channels (CL1 and CL2) and the reporter channel (RP1). This is accomplished by using the MAGPIX Calibration Kit.

Following calibration, use the MAGPIX Performance Verification Kit to run performance verification on the MAGPIX System. The MAGPIX Performance Verification Kit includes reagents to verify the calibration, fluidics channels using observations of pressure, flow rate, and carryover from well-to-well for the MAGPIX system.

Storage

The MAGPIX Calibration Kit must be stored in a dark place at 2°C to 8°C. The kit expires according to the date on the label. Do not use the kit or any kit components past the expiration date indicated on the kit carton label. Reagents are stable at room temperature for the short intervals required for working with the MAGPIX system.

In the event of damage to the protective packaging, consult the Safety Data Sheet (SDS) for instructions.

For more information on ingredients and safety precautions, consult the Safety Data Sheet (SDS) for instructions.

Kit Contents

- **25 disposable strip wells** - Each strip well holds needed reagents for calibration and can be inserted into the off-plate reagent area.
- **CD** - The CD includes an importable .lxl file that contains the calibration target value data for the specific lot of reagent in the kit, Certificates of Quality for the kit reagent components, and this package insert.

NOTE: Target values differ from lot to lot. Only use the CD only with the calibration reagents provided within the same kit.

- **Calibration Reagents for 25 calibrations** - MPXCAL contains one microsphere set used to calibrate the system for MagPlex® microspheres. Microspheres are suspended in a phosphate buffer, with a stabilizer and antimicrobial.



WARNING: Luminex® reagents contain ProClin® as a preservative. This can cause allergic reactions. The ProClin content is < 0.05%.

Instructions

The following instructions require the off-plate reagent area, a calibration kit, and a performance verification kit to complete. Please refer to the *MAGPIX® Performance Verification Kit Package Insert* for more information about kit contents and the performance verification results. The following instructions describe system start-up procedures. To calibrate the system at other times, please refer to the notes following the instructions.

Calibrate the system weekly using the calibration kit. Adjust the probe height and perform fluidics prep before calibrating the system. Run performance verification after calibration.

Run calibration and performance verification as part of regular system maintenance, when troubleshooting data acquisition problems, or when the current system temperature changes by $\pm 5^{\circ}\text{C}$ compared to the system temperature when last successfully calibrated. System temperature changes are monitored by the "delta cal temp" value in the system status area. In addition, the software has multiple alerts if the $\pm 5^{\circ}\text{C}$ tolerance has been exceeded.

A system may pass calibration but fail performance verification. If this occurs, contact Luminex® Technical Support. Running a performance verification following calibration helps ensure that classification channels, reporter channels, and system fluidics are all performing as intended.

The xPONENT **Home** page contains shortcuts that are useful to start up and run calibration of your system.

Importing Kit Target Values

1. Start the xPONENT® software.
2. Insert the MAGPIX® Calibration Kit CD into the CD drive on the PC.
3. On the **Home** page of the software, click **System Initialization**. The **Auto Maint** tab opens.
4. Click **Import Kit**.
5. Browse to the kit CD and select the .lxl file MPXCAL-XXXXX-yymmdd, where XXXXX is the kit lot number, and yymmdd is the kit expiration date, then click **Open**.

To import target values for the Performance Verification Kit, follow the instructions provided with the *MAGPIX® Performance Verification Kit*.

System Preparation - Probe Height

Adjust the probe height whenever you use a new plate type, before system maintenance, or as part of troubleshooting.



For instructions on adjusting the sample probe height, see the appropriate user manual for your system: *xPONENT® for MAGPIX® Software User Manual*.

NOTE: Improper probe height can cause failed calibration.

Daily System Start-Up

NOTE: Calibration is required weekly for the instrument. Performance verification should be performed daily to check system integrity and to ensure calibration remains valid. After calibration, perform verification.

1. Navigate to the **Admin** page > **System Setup** tab; there are three options available for system initialization:
 - a. Fluidics prep, calibration, performance verification
 - b. Fluidics prep, performance verification
 - c. Fluidics prep

NOTE: Option "Fluidics prep, calibration, and performance verification" must be selected for the remainder of the instructions.

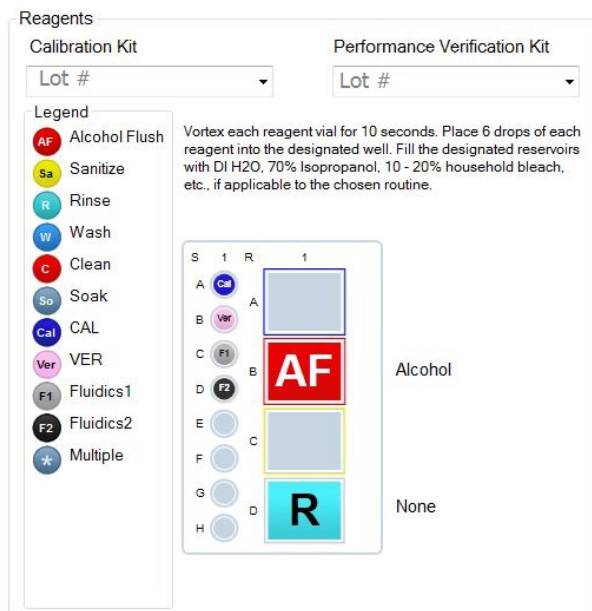
2. Click **Save**.

- On the **Home** page, click **System Initialization**. The **Auto Maint** tab opens.

NOTE: Make sure the calibration and performance verification kit information has been imported into the software using the CDs that come with the kits. If not, follow the instructions in the “*Importing Kit Target Values*” section.

- On the **Auto Maint** tab, activate the newly entered lot by choosing it from the drop-down menu at the top right of the screen. Select the correct kit lot number for your calibration and verification kits.
- Click the **Eject** button on the **System Status** bar.
- Add one clean strip well into the off-plate reagent block as shown. Notice the plate layout in the software which directs reagent locations.

FIGURE 1. Plate Layout



- Gently vortex all calibration kit reagents for 10 seconds each.
- Add 70% isopropanol or 70% ethanol to the **Alcohol Flush** reservoir as shown in the *Figure 1 “Plate Layout,”*. The reservoir used for **Rinse** should be empty because the **Rinse** command only expels fluid.
- Completely invert bottle and add six complete drops of the calibration reagent (MPXCAL) to the well strip as shown in *Figure 1 “Plate Layout,”*.
- Add six complete drops each of the performance verification reagents (MPXVER, Fluidics1, and Fluidics2) to the well strip as shown in the plate layout image.

NOTE: Luminex® recommends checking the label to ensure you are dispensing the correct reagent.

- Retract plate.
- Click **Run**. The run cycle should take up to 15 minutes.

Once complete, click **Report**, choose to view either the **Performance Verification** report or the **Calibration & Verification** report, select the appropriate filters, and click **Generate**.

NOTE: Custom routines will not generate enhanced **Performance Verification** reports when creating custom routines on the **Cmnds & Routines** tab.

NOTE: Calibration and verification commonly fail when vials are not vortexed thoroughly, reagents are in the wrong well locations, or the wrong kit lot values are selected.

NOTE: When running calibration or verification individually from the **Cmnds & Routines** tab, ensure that the correct lot numbers are selected as the current active lots on the **Lot Management** tab.

Other Suggested Maintenance

When experiencing acquisition problems (or once weekly as part of routine maintenance), perform the following procedure:

1. Remove the sample probe and place it in a sonicator bath for 5 minutes, narrow end down.

NOTE: Watch for water emerging from the opposite end.

2. Rinse the probe with water from the narrow end to the larger end.

NOTE: You must force water into the probe in order to complete the rinse.

3. Replace and readjust the probe height.
4. Run an alcohol flush command with 0.1 N NaOH.
5. Run the **Weekly Maintenance** routine on the **Cmnds & Routines** tab.
6. Calibrate the system and run the **Performance Verification** routine.

Other Resources

Use the following resources to obtain more information about your MAGPIX® System and xPONENT® software.

- *xPONENT® for MAGPIX® Software User Manual*
- *MAGPIX® Hardware Installation and User Manual*
- Luminex® Technical Support