

Dispense Cassette Best Practices & Troubleshooting Tips



Before you begin

- Ensure the cassette type setting on the instrument matches the installed cassette type.
- Include a “quick prime” within the dispense protocol to ensure an adequate dispense to the first column.
- If the tubing was shortened to reduce dead volume, verify dispense performance and recalibrate the cassette as needed (refer to the user manual).

While using

- Prior to dispensing, prime tubing with 1X PBS, then prime with dispense solution. If dispensing cells, first prime with 1X PBS, then media alone, and then cell suspension.
- If >20 minutes elapse between dispenses, purge the tubing and repeat priming to remove air bubbles.
- If dispensing cells, agitate the vessel with an orbital shaker or magnetic stirrer to keep cells in suspension.

When finished dispensing

- Purge tubing with 1X PBS, followed by water and then air to remove all fluid. Avoid flushing with ethanol, which can cause residual protein aggregation and clogging.
- Remove the cassette from the instrument; leaving the cassette under tension while not in use can shorten the cassette's lifetime.
- If tips/tubes are clogged, backflush tubing from the tip end with deionized water using the supplied 10 mL syringe (PN 7210021). Repeat the process with an empty syringe to expel any remaining water.
- Sterilize cassettes by autoclaving (121°C, 750 mmHg). Allow the cassette to resume room temperature before subsequent use.

Observation	Possible Problem	Troubleshooting Tips
Fluid is not flowing from all cassette tips. Gaps in fluid (air bubbles) are visible in tubing.	Channels are not fully primed. Note: Some channels may prime faster than others.	Prime with dye solution and observe the flow. If fluid is not drawn into tubing channel(s), see next action items.
Fluid does not fill the entire tube length in one or more channels. Fluid dispenses against the side (instead of the center) of wells.	Clogged tube or tip.	Inspect tubes for blockage. Backflush blocked plastic tips with the supplied 10 cc syringe. Note: Do not use a stylus to unclog tips; this can damage tips and adversely affect performance.
Fluid comes out in drips instead of a steady stream. Droplets form on the ends of tips after dispense is complete.	Cassette type not properly defined on instrument.	Verify that the instrument and protocol are set for the correct cassette type; refer to the user manual.
If you continue to observe problems and the cassette is >1 month old, recalibrate the cassette prior to further troubleshooting. Refer to the "Date of Manufacture" on the cassette packaging.		

How to Order Replacement Cassettes

You can conveniently order replacement cassettes online at <https://www.agilent.com/lifesciences/cassettes> or scan the code at the right. Agilent offers replacement cassettes for Agilent BioTek dispensers and washers with peristaltic pumps. These cassettes are verified to work with Agilent BioTek instruments for accurate, precise, and repeatable results. A range of tubing diameters and tip types allows you to choose the most appropriate cassette for your application. Order your replacement cassettes and avoid workflow downtime.



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