

Flow Conductor

Frequently Asked Questions

Is Flow Conductor compatible with flow cytometry?

Yes. Flow Conductor™ was developed for flow cytometry, and the technology is used to prepare samples for a variety of different cytometers.

How many different antibodies can I load on Flow Conductor?

Flow Conductor stores up to 100 reagent tubes in a specially designed cooling chamber. Up to 72 stock antibodies and 28 cocktail tubes are supported.

How many different cocktails can I prepare (mix) on Flow Conductor?

Flow Conductor can make up to 28 different cocktails in every run. Flow Conductor stores up to 100 reagent tubes in a specially designed cooling chamber. Up to 72 stock antibodies and 28 cocktail tubes are supported.

What are the special consumables required for Flow Conductor?

Flow Conductor uses Low Dead Volume (LDV) Reagent Tubes (PN 500116). LDV tubes are specially designed to minimize dead volume of valuable antibodies and other dyes. Flow Conductor does not use tips or other special labware. Contact your Fluidigm sales representative to learn about the potential reagent savings when using Flow Conductor with LDV tubes.

How is Flow Conductor different than a standard liquid handler?

Flow Conductor is the only integrated system with an onboard centrifuge for tubes, allowing you to perform a complete workflow with walkaway automation for both flow and mass cytometry.

The system mirrors bench workflow steps so you do not have to adapt your protocols to plates.

Does Flow Conductor provide time savings for flow or mass cytometry protocols?

Flow Conductor delivers significant hands-on time savings compared to manual workflows. Just load specimens, reagents and target tubes, and then start your protocol for fully automated sample processing.

Overall protocol time is driven mostly by incubations and centrifugation times. These parameters vary by protocol.

What is the required maintenance?

Fluidigm recommends planned maintenance (PM) every 6 months. PM includes accuracy and precision gravimetric testing and recalibration if needed.

Can I prepare samples for both flow and mass cytometry on the same instrument?

The CyTOF® system is a very sensitive analytical instrument that can detect elements in concentrations as low as parts per trillion (ppt). As such it is important to maintain a clean fluidics system for sample preparation for mass cytometry. Flow cytometry reagents may contain environmental contaminants such as lead and barium that would be detected by CyTOF systems. If they are present in large amounts these contaminants may compromise data quality or even harm the CyTOF ion detector.

For customers interested in using Flow Conductor™ for mass cytometry, Fluidigm recommends using Fluidigm recommended reagents only. Mass cytometry users should take care to maintain a clean fluidics system on the Flow Conductor for sample preparation for subsequent analysis using CyTOF systems.

Can I program my current assays in the Flow Conductor software?

Flow Conductor is designed to reproduce staining steps performed on the bench. Most bench workflows can be re-created using Flow Conductor software. Consult your Fluidigm field application scientist for details about your protocol.

Does Flow Conductor keep reagents cool?

Flow Conductor features a cooling chamber that maintains a temperature of 3–8 °C. The cooling chamber holds an antibody rack with 100 positions for LDV reagent tubes. Other system modules operate at ambient temperature.

What is the maximum centrifuge force on Flow Conductor?

The Flow Conductor centrifugation can create up to 800 x g. This force is appropriate for most flow and mass cytometry applications.

How many protocols can Flow Conductor run at the same time?

Flow Conductor features 28 positions for secondary tubes. Up to 28 protocols can be executed in a single run. This means each tube can have its own protocol. Consult your Fluidigm field application scientist for details on how your protocols can be combined into a single run.

Is Flow Conductor compatible with protocols that require red blood cell lysis?

Yes. The instrument can perform all steps required for red blood cell lysis using a variety of commercial and home-brewed reagents.

How many specimens and samples can Flow Conductor run?

Flow Conductor has 18 positions for specimen tubes and 28 positions for secondary tubes (also called daughter tubes). This configuration allows for multiple cocktail combinations, for example 7 specimens, each stained with 4 cocktails, resulting in 28 stained secondary tubes.

What are the logging features?

Flow Conductor creates logs and reports for protocols. Logs include cocktail mixing, sample preparation and reagent levels.

The optional tube Barcode Reader Module (PN 500115) allows tracking of specimen tubes and secondary tubes. Two default chain of custody tracking levels are provided, and additional customization can be performed by Fluidigm technical support. Contact your Fluidigm sales representative for more information on chain of custody features.

What is the operating system for the onboard computer?

Flow Conductor runs a Windows® 10 operating system.

What are the site requirements for Flow Conductor installation?

Flow Conductor is a benchtop system. Consult the site requirements guide (PN FLDM-00141) for more details.

What are the dimensions of Flow Conductor?

Flow Conductor is a benchtop system. Consult the site requirements guide (PN FLDM-00141) for the dimensions of the system and minimal and recommended bench space.

For technical support visit fluidigm.com/support.

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