FAQ: NanoCellect Microfluidic Cartridges

Introduction

This document is intended as a value propositioning resource for our microfluidic cartridges. It provides suggested responses to common questions and objections related to the cartridges or other relevant components. When addressing questions about the cartridges and their cost, it is crucial to position our microfluidic cartridge as an innovative technology that offers cost savings when compared to alternative cell sorting options.

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Frequently Asked Questions

Why is the cartridge so expensive?

If we consider the full picture, we find the price of the cartridge is reasonable and cost effective.

1. No Extra Costs Beyond the Cartridge:
   Traditional systems not only involve the cost of the instrument itself, but then also require additional expenses and time for daily maintenance protocols, fluidics tanks, filters, and other consumables. With the WOLF system, you simply use our innovative microfluidic cartridge for sorting your cells. An analogy that helps illustrate this is the experience of purchasing a plane ticket with different airlines. With the WOLF system, the cartridge is like a plane ticket that includes everything in the cost at the time of purchase. You make your purchase a couple months in advance and then you're all set to show up at the airport the day of your flight and get on the plane. With traditional cell sorters, it's more like a plane ticket with extra costs tacked on after the initial purchase. You pay for the flight, but then have additional costs for seat selection, checked bags, flight changes, etc.

2. Overall Costs of Full Experiments:
   For some downstream applications, the cartridge cost for the sorting step is minimal when considering the total cost of the full experiment. Using the WOLF system for the cell sorting step is going to provide higher-quality samples for the downstream application, which reduces overall cost. Let's say you're doing single-cell sequencing with a 10x platform. The reagents needed for a run on their instrument can cost thousands of dollars. Using the WOLF system for sample prep maximizes the quality of the sequencing run and reduces the cost of the overall experiment. That's powered by the cartridge.

How does the cartridge help me save money?

Financial benefits to consider:

1. Reduced Fluidics:
   If you're familiar with traditional cell sorters, imagine going to a lab and discarding the entire fluidics cart, flow cell, and cell line. The WOLF system only requires 50ml of fluidics for a sorting run, which is about 1/10 of the amount needed by most traditional cell sorters. This means lower fluidics costs and substantial savings.

2. All-Inclusive Maintenance:
   Maintenance costs are built into the price fo the cartridge. Unlike other systems where you need to factor in periodic cleaning, calibration, and consumables costs, our cartridge eliminates these additional expenses. As a result, no lab member's time is spent on lengthy maintenance procedures.

3. Compact Design:
   The cartridge is a significant factor in keeping the size of the full WOLF system compact and portable. While other systems can require special hoods and tables due to weight and size, the WOLF can be at your bench and also fits inside any standard biosafety cabinet.

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What advantages does the cartridge have over other systems?

- Compatible for handling biohazardous samples without sample-to-sample carryover or aerosols.
- Each cartridge is individually calibrated for every experiment, providing better precision and performance.
- Flexibility that surpasses other cell sorters, allowing the use of native buffers/cell culture media that best suit the cells being sorted.
- Option for bulk sorting or single-cell sorting into 96- or 384-well plates.
- Gentle sorting at <2 PSI, resulting in improved viability of cells and higher outgrowth.
- The platform is so easy to use that any scientist or student in the lab can learn to operate it within one day, minimizing turnover costs.

Does the cartridge really guarantee a sterile sort?

With traditional cell sorters, even with following disinfecting protocols before and after sorting, at best it provides an aseptic environment.

Our microfluidic cartridges keep samples safe from the environment, and scientists safe from the sample. The fluidics are fully contained and completely external to the instrument itself. No aerosols are formed, allowing for safe sorting of biohazardous samples.

How does the cartridge help me save time?

With other cell sorters, disinfecting protocols involving bleach, PBS rinses, filter replacements, flushing of fluidics tanks and lines, and more are necessary before and after sorting. These procedures consume instrument usage time and require additional labor hours for maintenance and disinfection.

Even when sterility is not a concern, traditional sorters still demand regular maintenance that can be time consuming and hands-on. In some cases, expert certified training is required to conduct the maintenance. With no complex or time-consuming daily maintenance procedures, your team has more time to focus on their research with the WOLF.

Instruments that use fixed fluidics lines experience downtime whenever fluidics issues arise. The innovative design of our cartridge means zero instrument downtime due to fluidics issues. We are currently the only cell sorting system on the market that does not use any fixed fluidics lines.

Don’t other cell sorting systems have a disposable cartridge too?

Yes, some other sorting systems do offer a disposable cartridge. However, most still have some fixed fluidics lines (though not nearly as many as other systems) and their protocol requires cleaning/decontamination step(s) after samples runs. This adds an extra step that you don’t have with the WOLF. Any fixed fluidics lines leaves risk for contamination that our cartridge eliminates.

What is daily maintenance like?

There are no daily maintenance requirements. Once you are finished sorting, simply discard the cartridge in a biohazardous waste bin.

How often do the WOLF systems have to be serviced?

We recommend one preventative maintenance session per year, per system, provided by our knowledgeable and trained Field Service Engineers. Regular servicing ensures optimal performance and longevity, giving you peace of mind and uninterrupted productivity.

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