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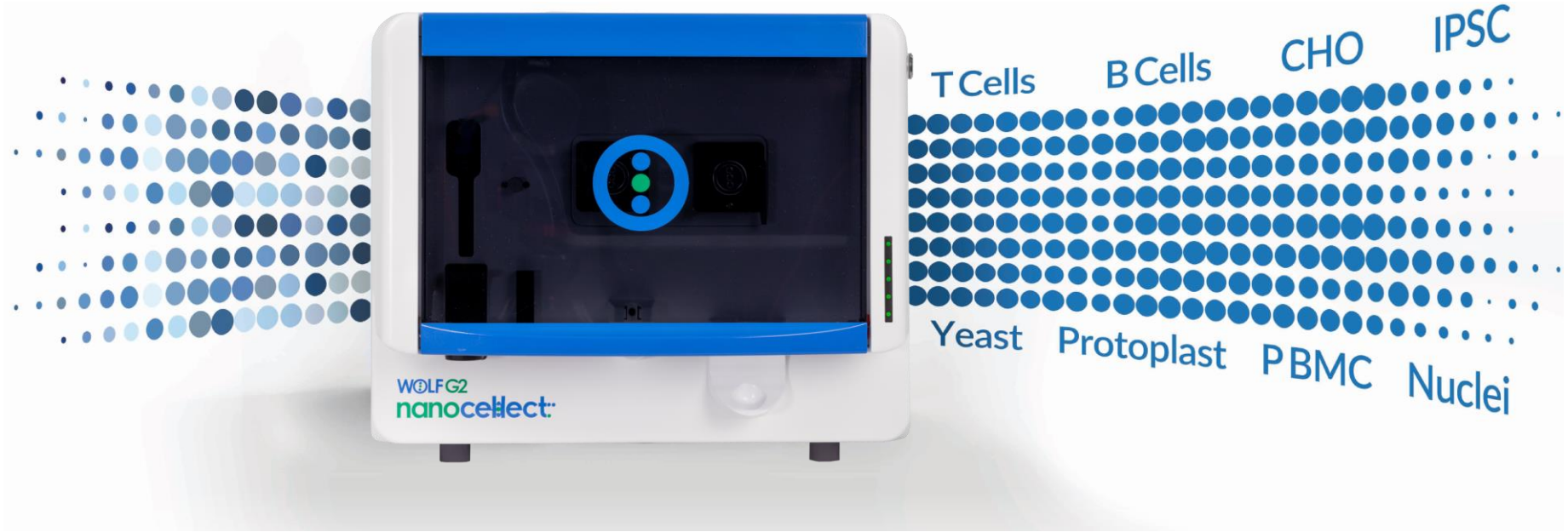
Introduction of the
WOLF G2 cell sorter



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Meet the WOLF and WOLF G2 cell sorters

WOLF Cell Sorter
1 laser & 3 colors

WOLF G2 cell sorter
2 lasers & up to 9 colors

High viability
Industry leader for gentle cell sorting at <2 psi

Sterile & **disposable**
Fluidics path and cartridge

Safe
Zero aerosols, no sample carryover

Simple & intuitive
Ready to use after 1 day of training

Small footprint
Fits in a hood easily

Affordable to maintain
Compared to traditional cell sorters

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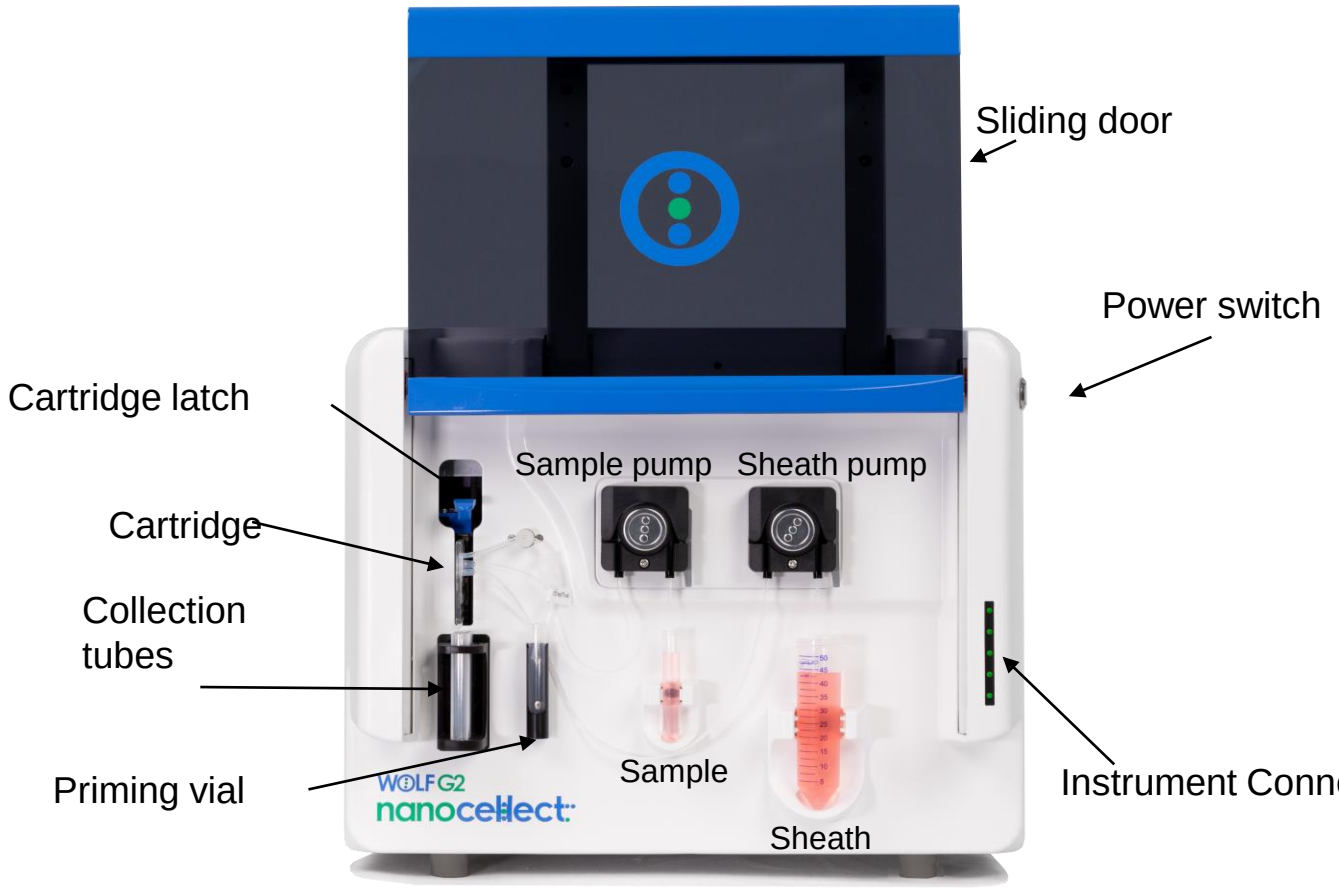
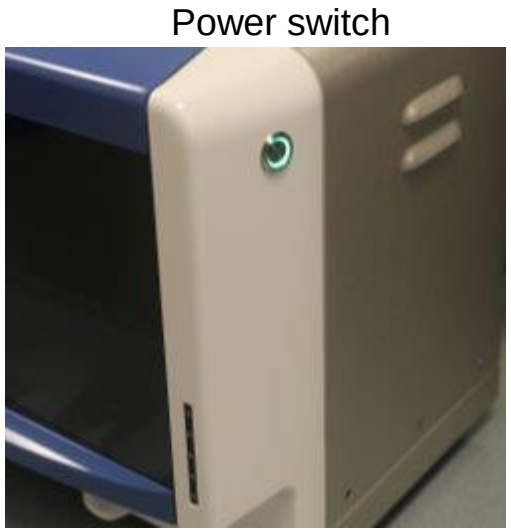
A complete microfluidic solution for cell sorting





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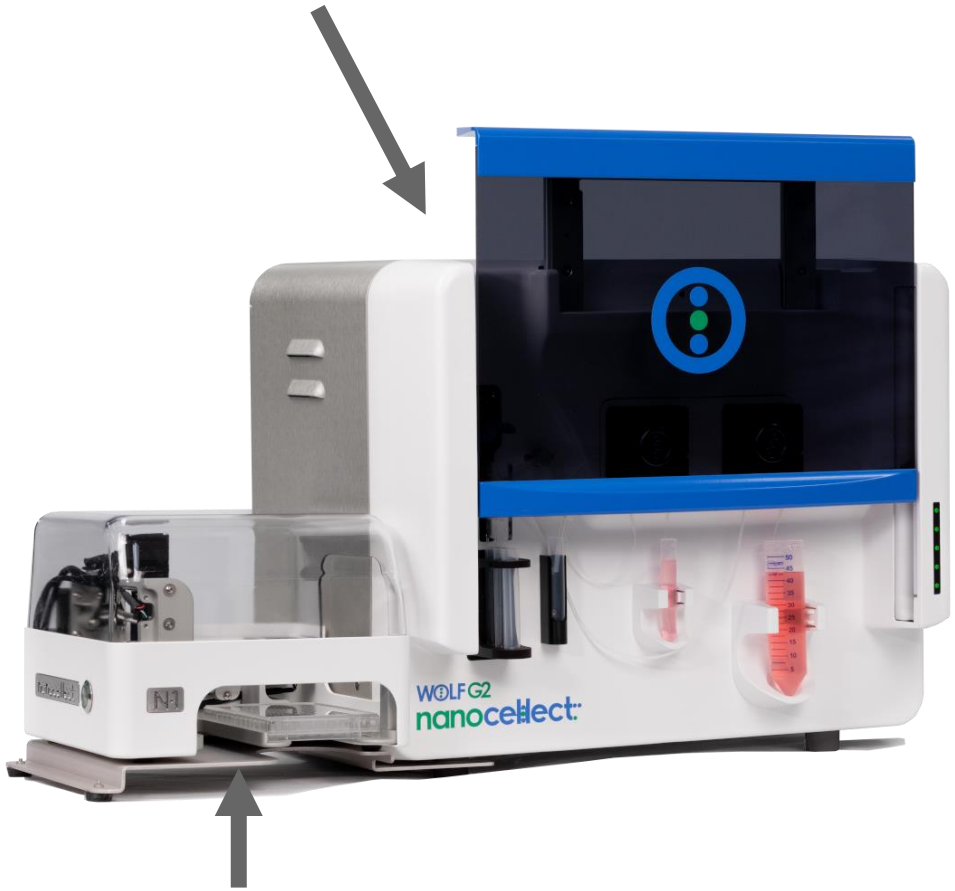
A complete microfluidic solution for cell sorting

WOLF G2 cell sorter

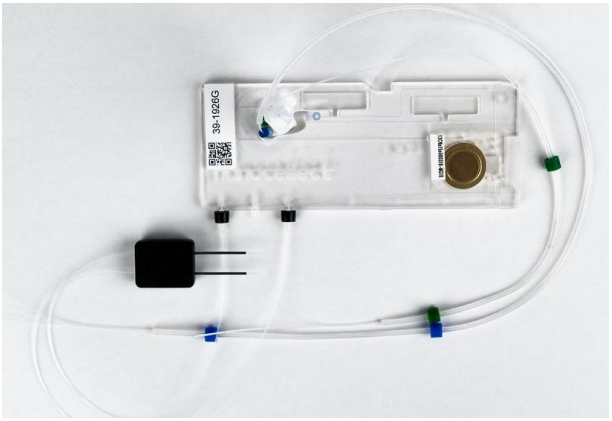


N1 single-cell dispenser

WOLFViewer software

All-in-one computer

Microfluidic cartridges



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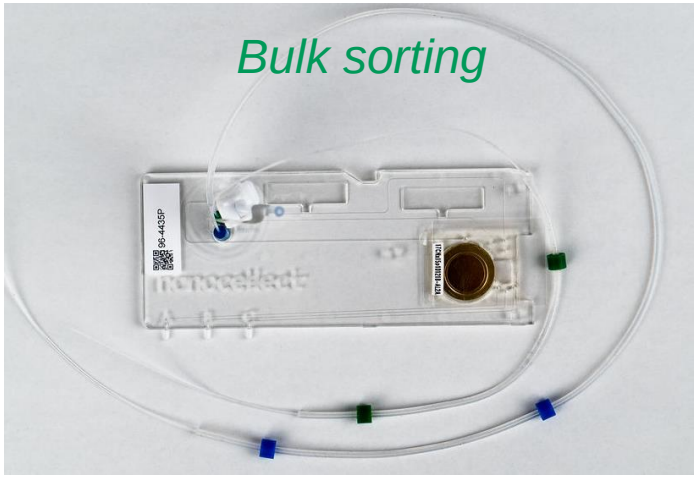
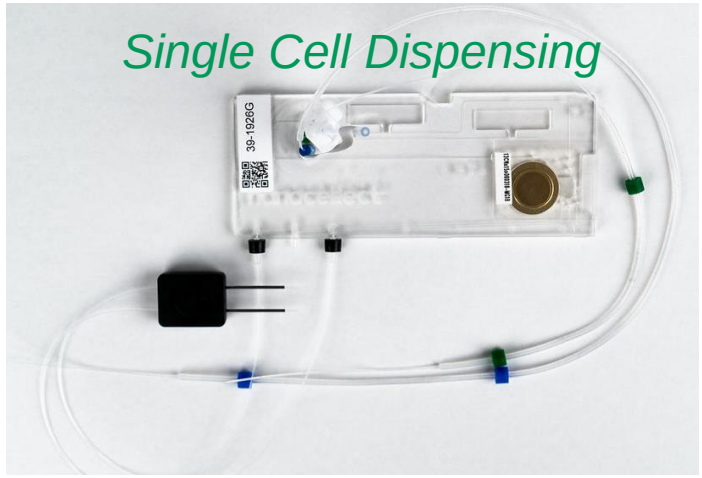
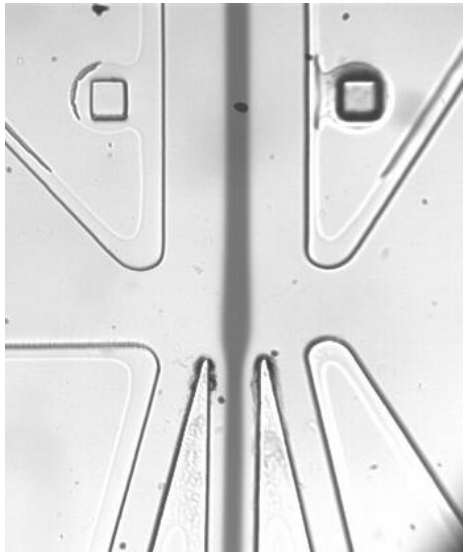
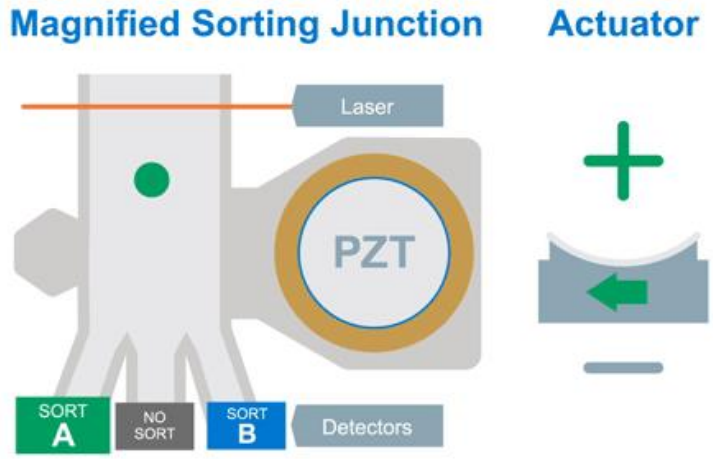
A key innovation is the microfluidic cartridge







Ultra low sorting pressure at <2 psi
200 - 300 sorts per second



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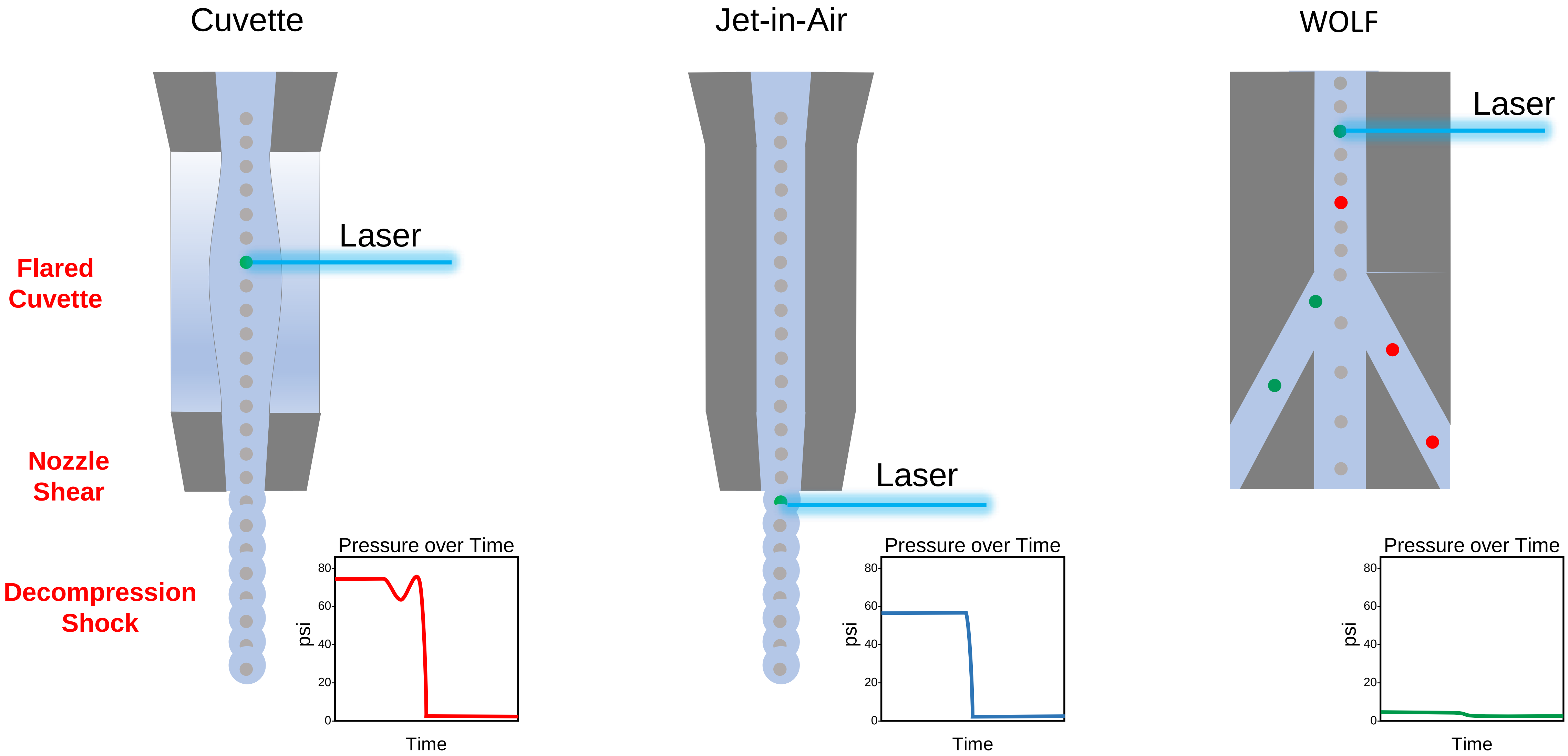
Droplet Sorters Damage Cells



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Stay Sterile with the WOLF G2 and N1

All input and output tubing is sterile and included with each cartridge

Ethylene Oxide Sterilized Disposable Cartridges

100% disposable fluidic pathway

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Stay Sterile with the WOLF G2 and N1

- **The WOLF G2 and N1 easily fit in standard Biosafety Cabinets**

The WOLF G2 expands on the capabilities of the WOLF

- 1 laser – 488 nm
- 5 Detectors
  - Back Scatter + Forward Scatter
  - 3 fluorescent channels
- Compact & Benchtop
- Sterile Cartridge & Low Maintenance

- 2 lasers for 3 instrument configurations
  - 488 nm & 405 nm
  - 488 nm & 561 nm
  - 488 nm & 637 nm
- 7 Detectors
  - Back Scatter + Forward Scatter
  - 5 fluorescent detectors & up to 9 fluorescent channels
- Increased Sensitivity
- Improved Usability
  - RFID tags for cartridge serial numbers and expiration date
  - Instrument is easy to move around the lab (and the country)

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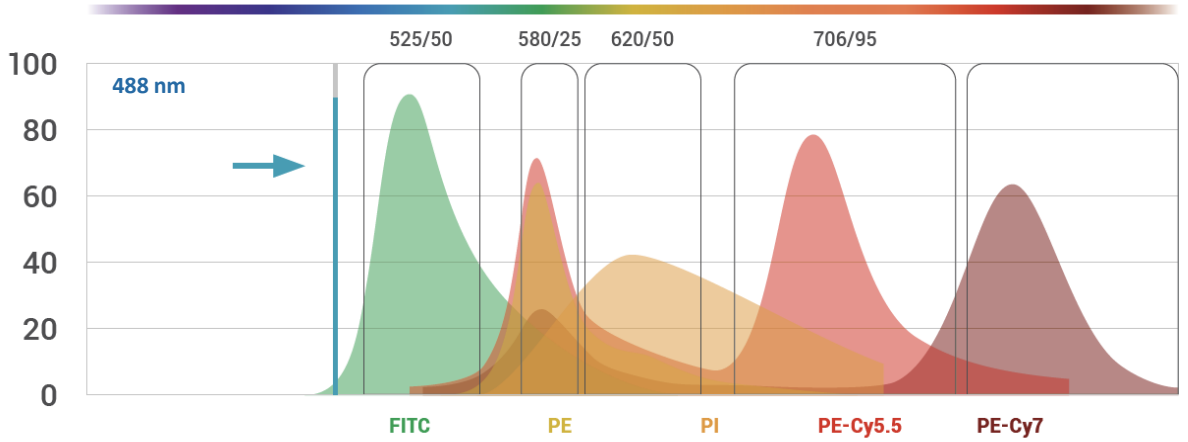
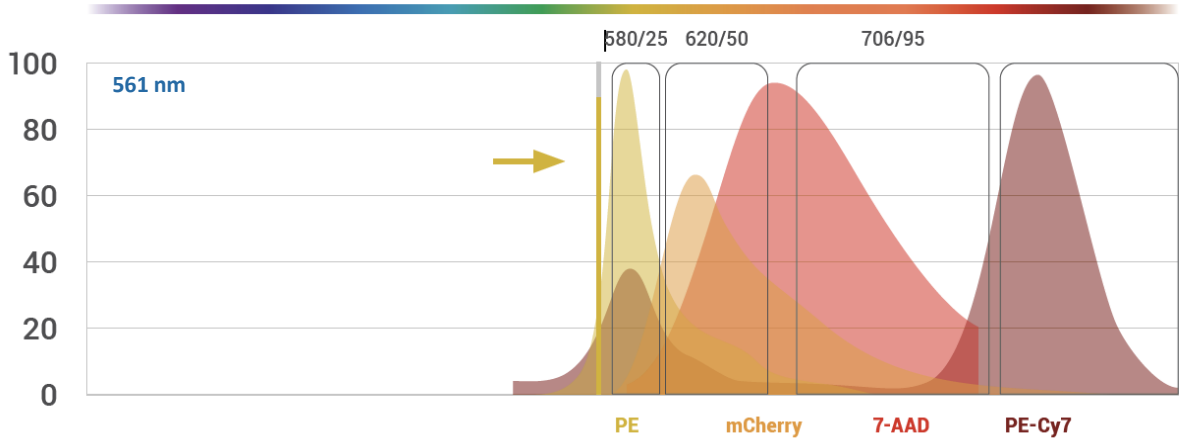
The WOLF G2 Platform: Inside the Cell Sorter

- 2 Lasers (55mW Diode)
  - 488 nm
  - 561 nm
- 7 Detectors
  - Forward Scatter
  - Back Scatter
  - 5 PMTs for Fluorescent Detection
    - 525/50 nm Bandpass
    - 580/25 nm Bandpass
    - 620/60 nm Bandpass
    - 706/95 nm Bandpass
    - 760 nm Longpass

Up to 9 Fluorescent Channels





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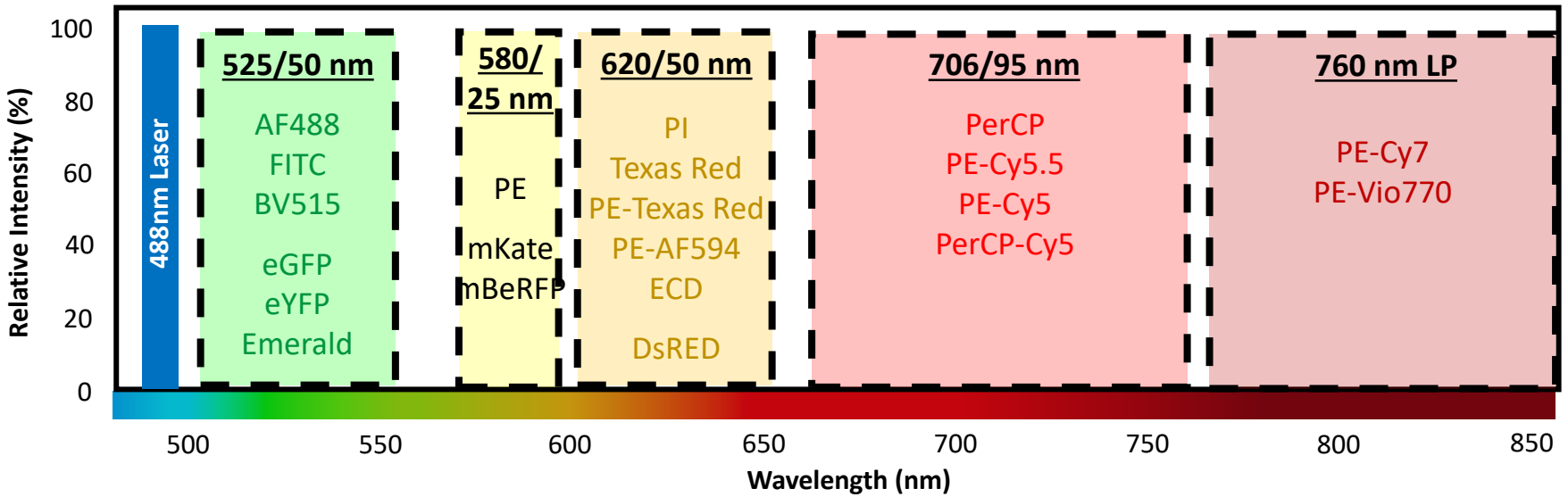
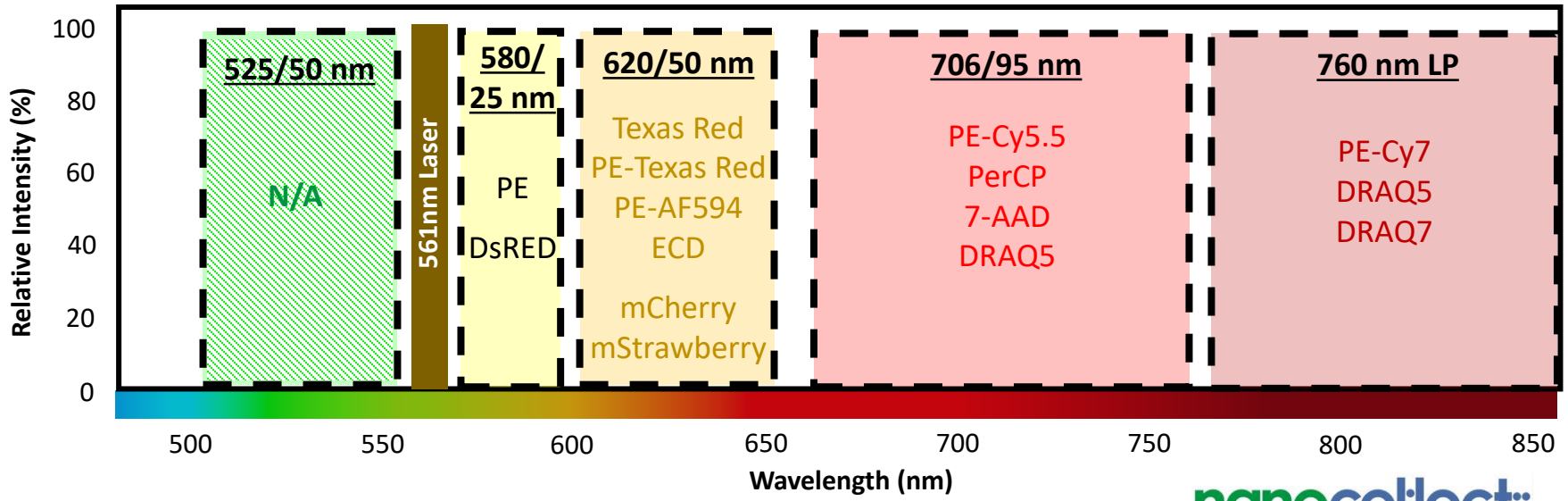
The WOLF G2 Platform: Fluorophore Recommendations





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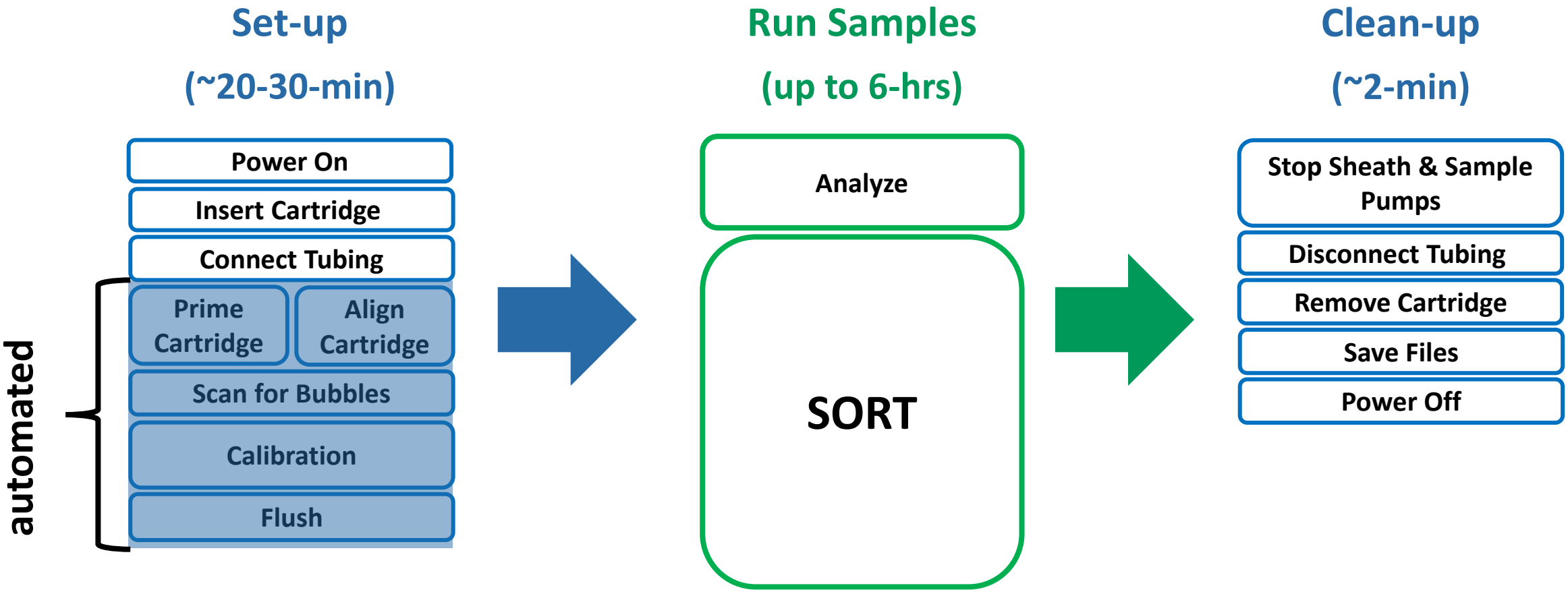
The WOLF G2: Overview of Instrument Operation

- **Easy set-up & clean-up**



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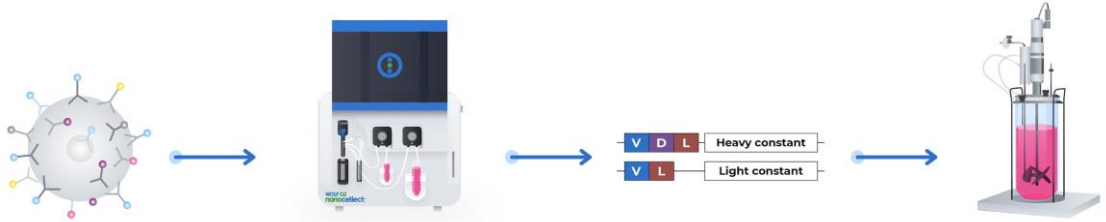
The WOLF G2 improves research accuracy, efficiency, and safety

Cell line development

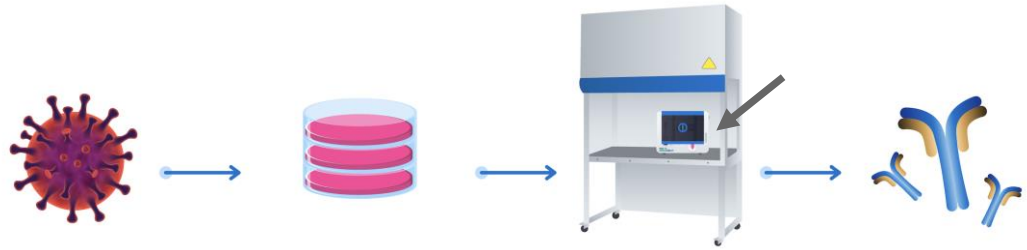
Genomics

Gene editing

Immunology



Infectious disease



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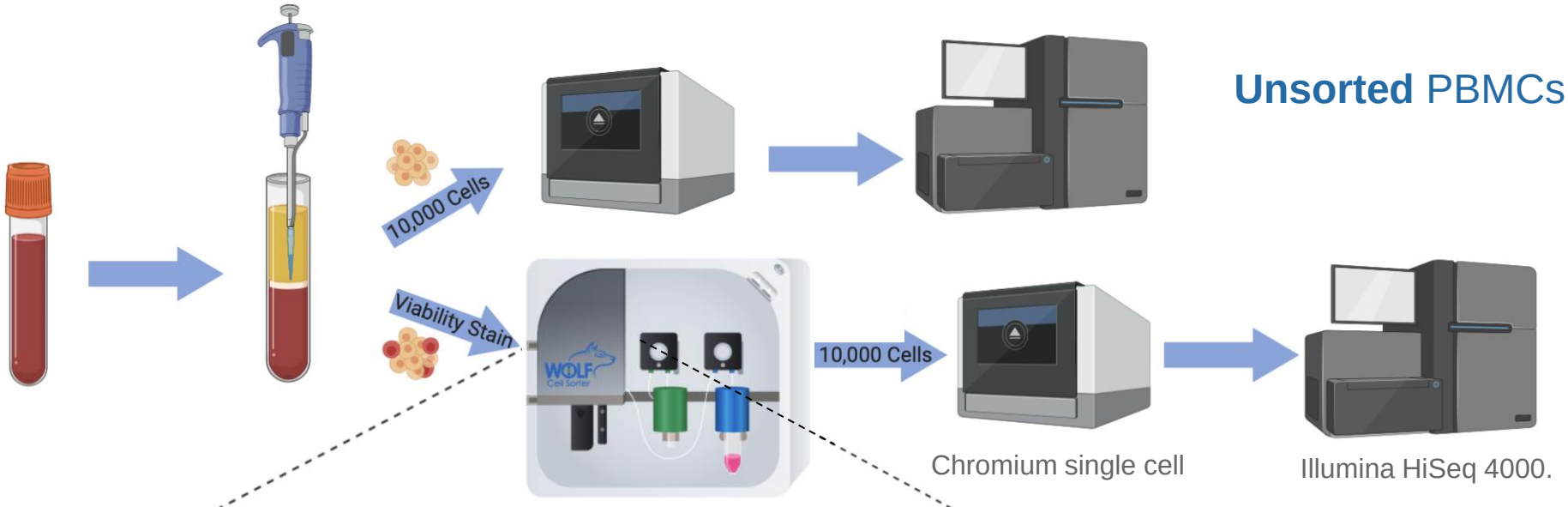
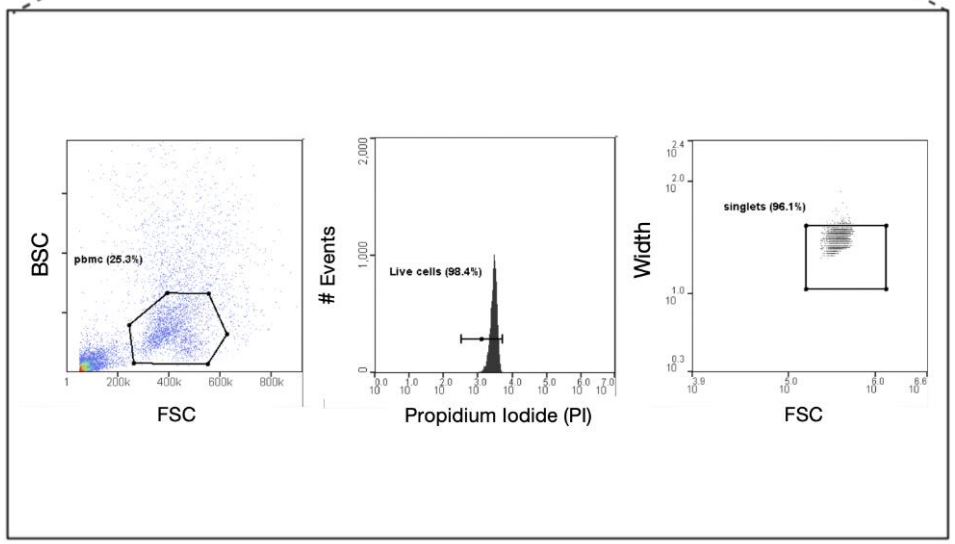
Case study: PBMC sample prep for 10x Genomics single-cell RNA-seq





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Improved Resolution by Sorting Live PBMCs

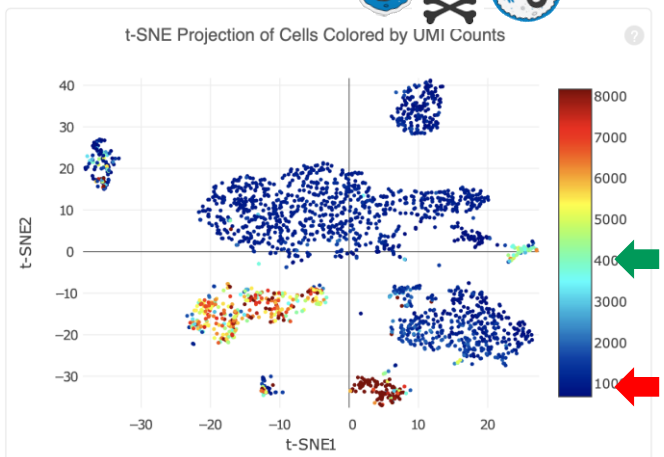
NanoCellect results show improved sensitivity, specificity and dynamic range—even with a robust cell type.

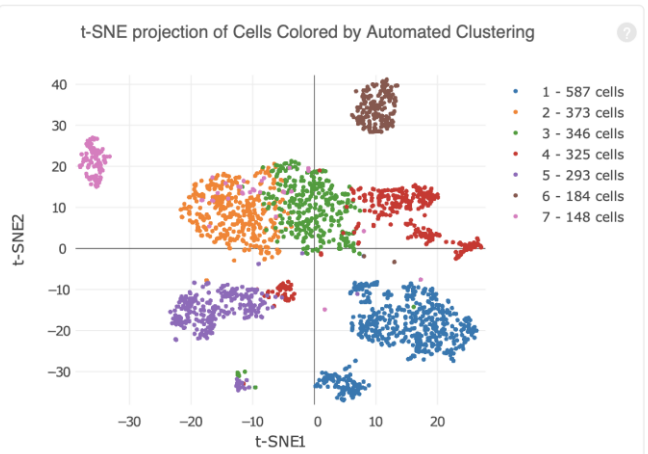
Experiment

Unsorted:	**Prepare PBMCs →**	**10x Genomics**
Sorted:	**Prepare PBMCs → Sort Live→**	**10x Genomics**

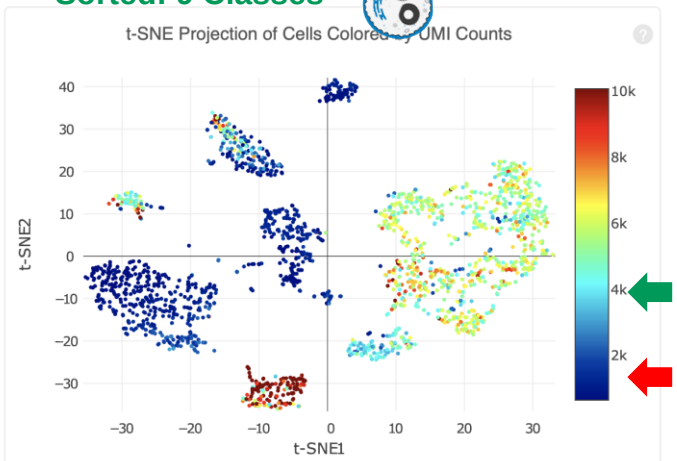
Quality Metric	Unsorted	Sorted	
Estimated Number of Cells	2,256	2,038	
Fraction Reads in Cells	85.7%	91.5%	5.8%
Mean Reads per Cell	31,705	36,699	12%
Median Genes per Cell	456	1,101	241%
Total Genes Detected	19,494	20,875	7%
Median UMI Counts per Cell	1,036	3,980	384%

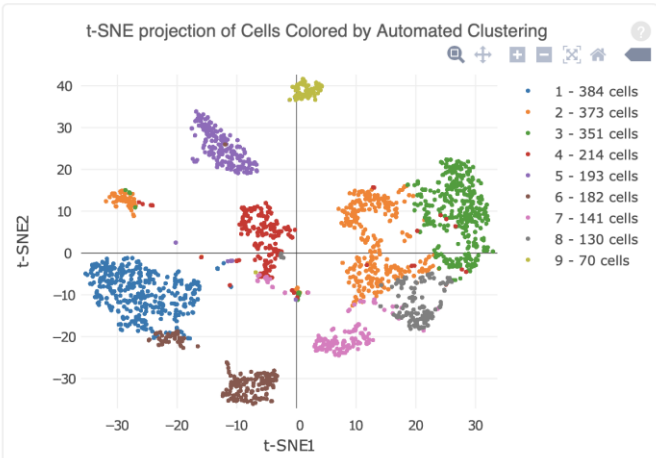
Unsorted: 7 Classes





Sorted: 9 Classes





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Case study: Increasing to five color PBMC sorts with the G2

Panel for 488/561 nm G2

Protocol:

1. Veri-cell PBMCs
2. Avg 1.58 x 10^5 cells/mL HBSS/2% FBS*
3. Blocked with 10% FBS/Monocyte Blocker**
4. Stained cells
5. Dual-sorted 2mL for CD8+ and CD4+
   - Gating strategy on next slide
6. Concentrated to 300 µL
7. Read on WOLF & NovoCyte
8. Repeated on 3 cartridges

Marker	Fluorophore	WOLF Channel	NovoCyte Confirmation
CD8 - T_{KILLER}	FITC	B525	B530
CD3 - Lymph	PE-Cy5	Y706	Y660
CD4 –T_{HELPER}	PE	Y580	Y586
CD19 - B cells	PE-Dazzle 594	Y620	Y615
CD45 - Leukocytes	PE-Cy7	Y760***	Y780

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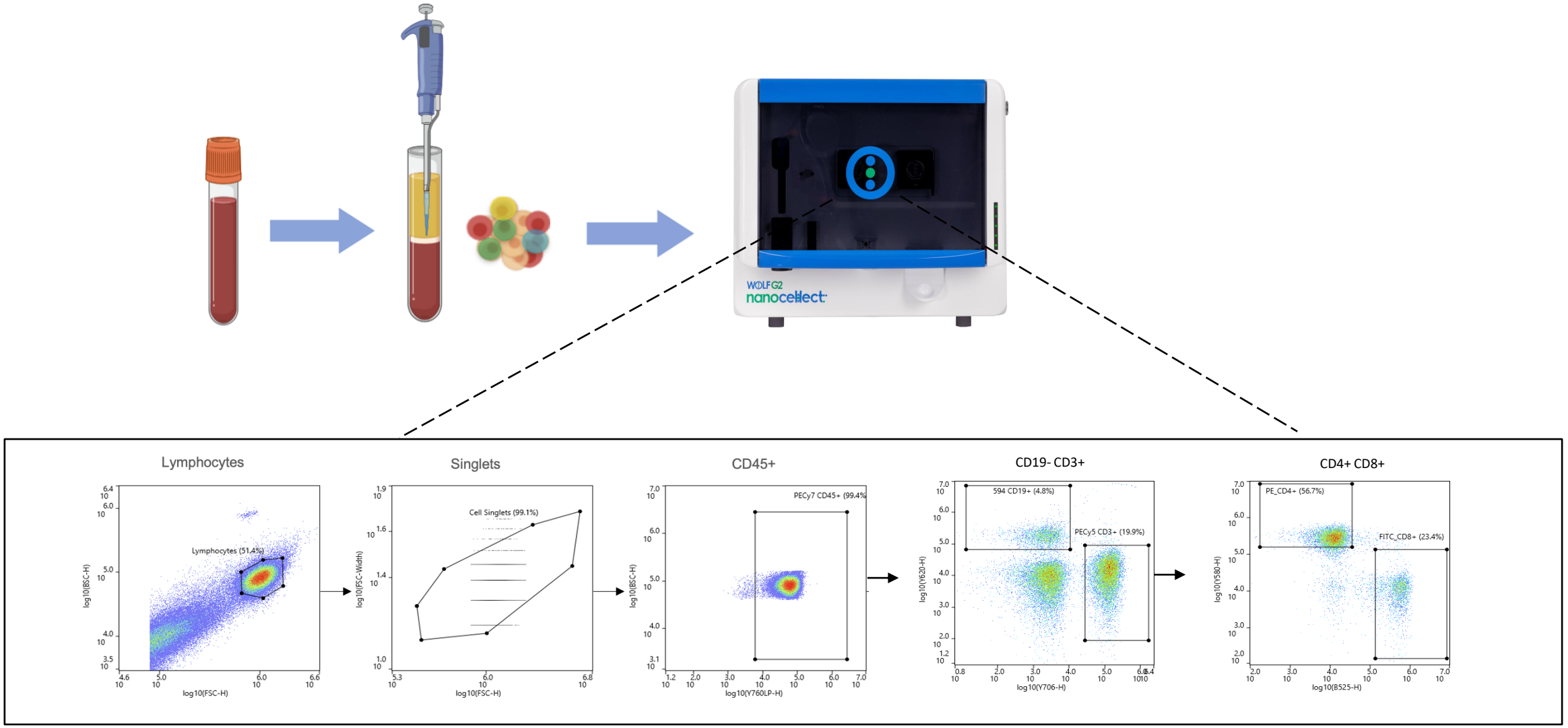
Case study: Increasing to five color PBMC sorts with the G2



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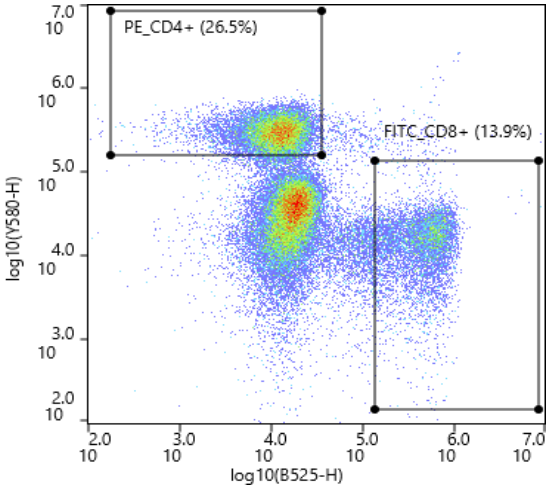
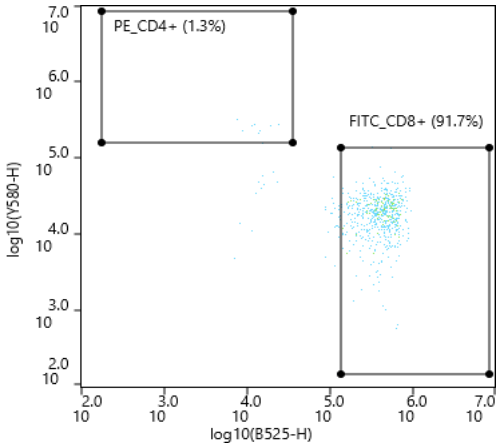
CD4 and CD8 T cells were enriched 3-7X from lymphocytes

Pre-Sort

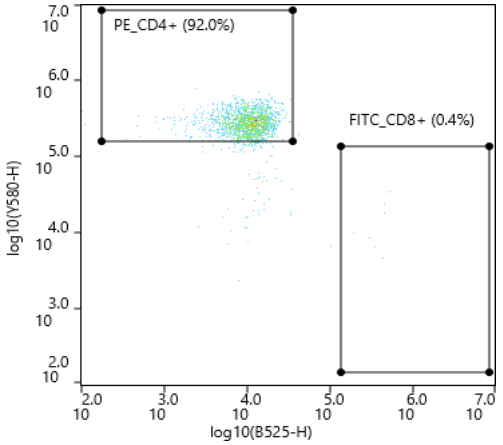


CD8 Post-Sort



CD8 T cells were enriched to **91.7%** from a 13.9% target population.

CD4 Post-Sort



CD4 T cells were enriched to **92.0%** from a 26.5% target population.

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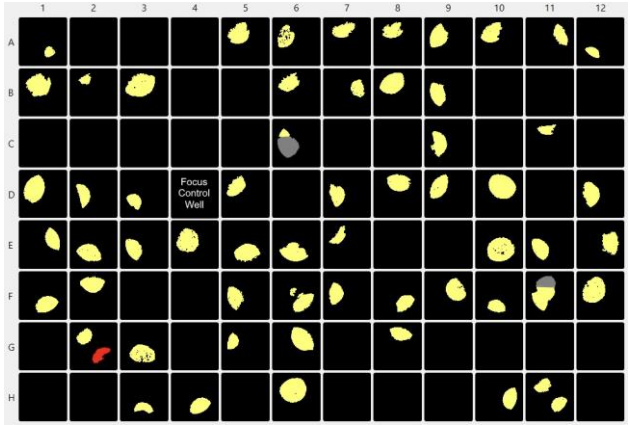
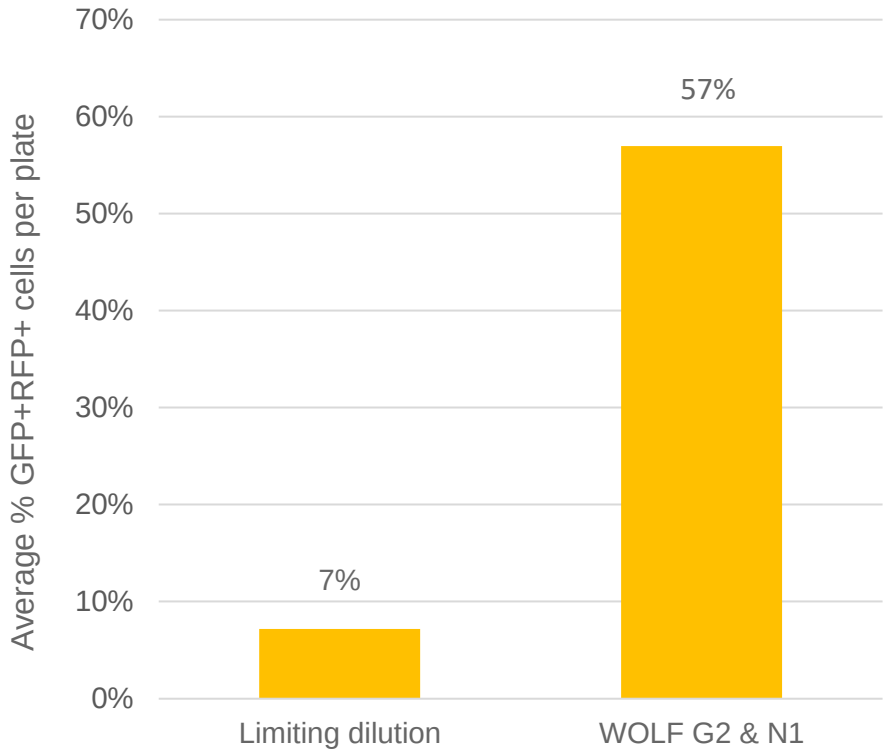
WOLF G2 and N1 single-cell dispensing improves monoclonal outgrowth

WOLF G2 & N1 single-cell dispenser



GFP+RFP+ single-cell outgrowth at day 14

*Sorting with the WOLF G2 and N1 single-cell dispenser had **an estimated 8-fold increase in targeted monoclonal colonies** above limiting dilution.*



*Estimated based on 100% Target values

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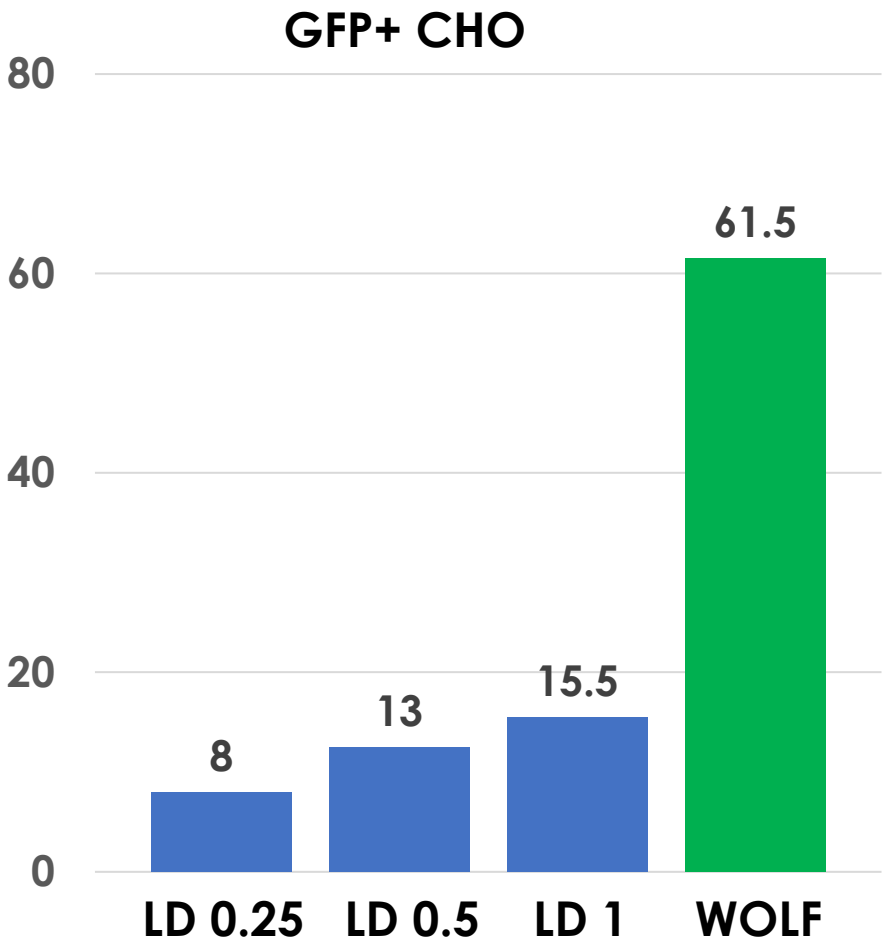
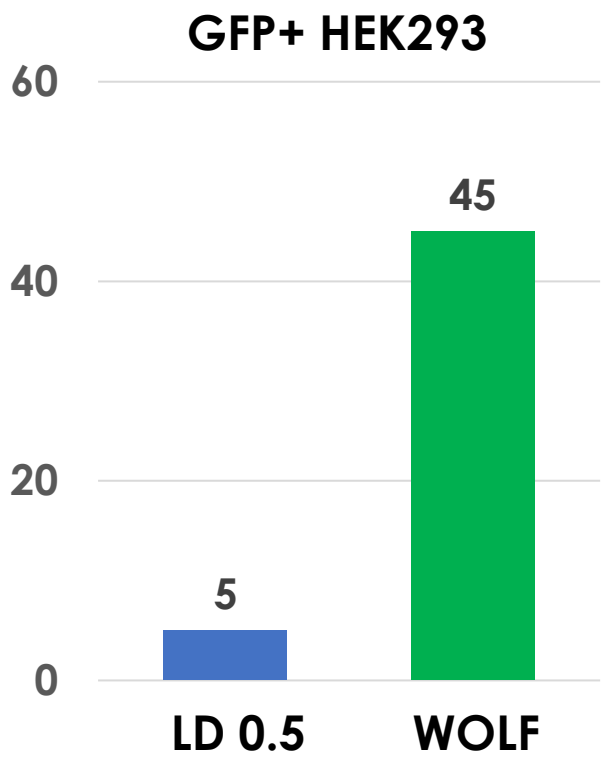
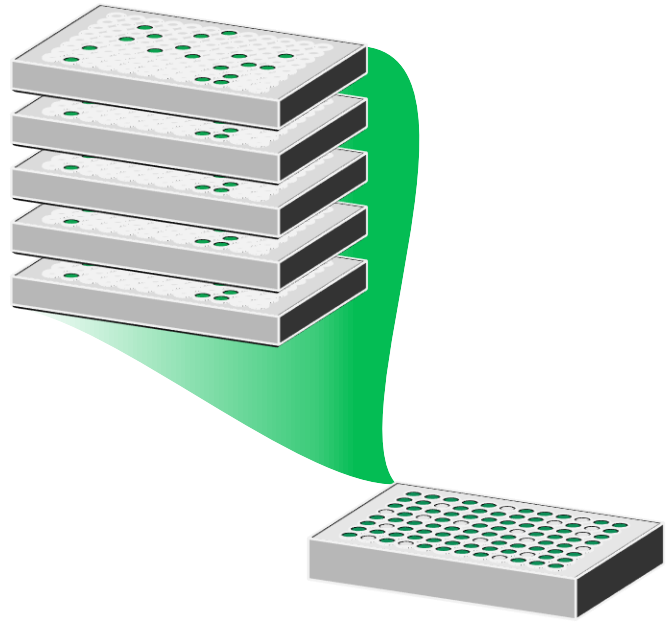
WOLF Increases GFP+ Monoclonal Plating Density



NanoCellect



Major Life Science Co.



4-8X improvement in GFP+ monoclonal colonies per plate

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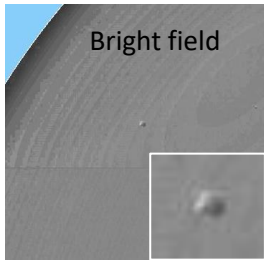
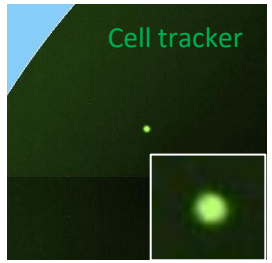
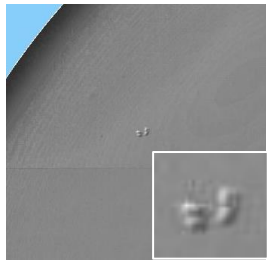
N1 Performance: 80+% Monoclonal Outgrowth

Day 0

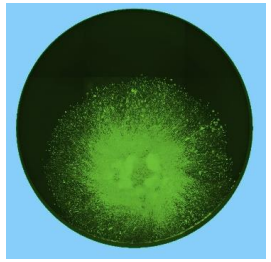




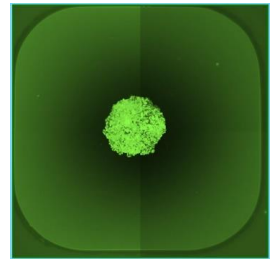
Day 1

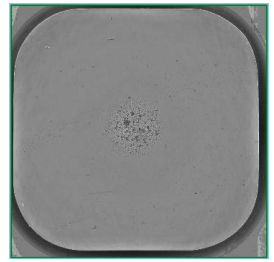


CHO-K1 GFP+ 96-well

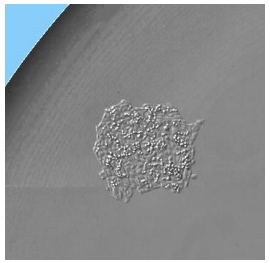


CHO-K1 GFP+ 384-well

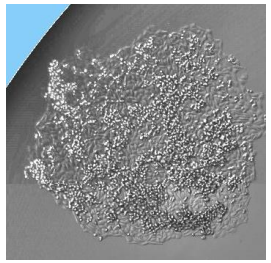




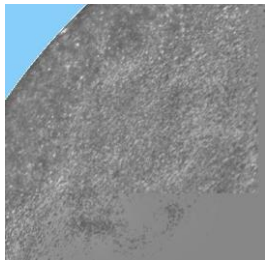
Day 5

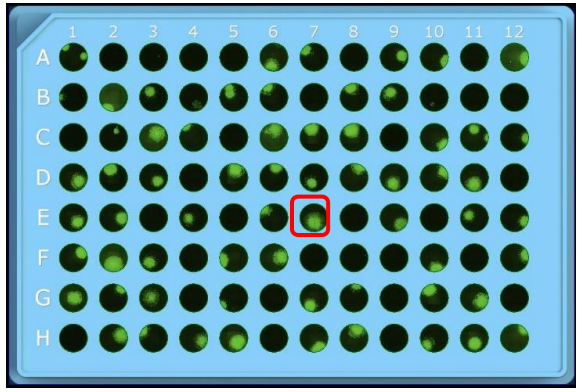


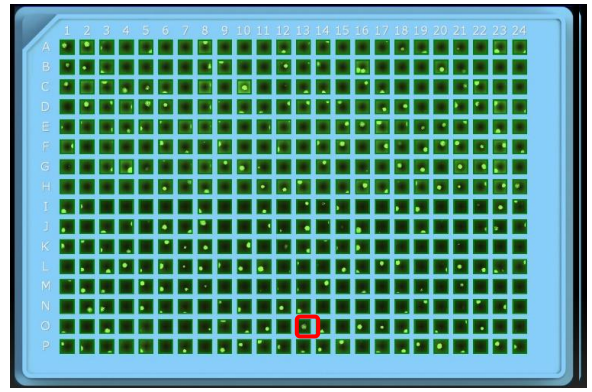
Day 7



Day 14







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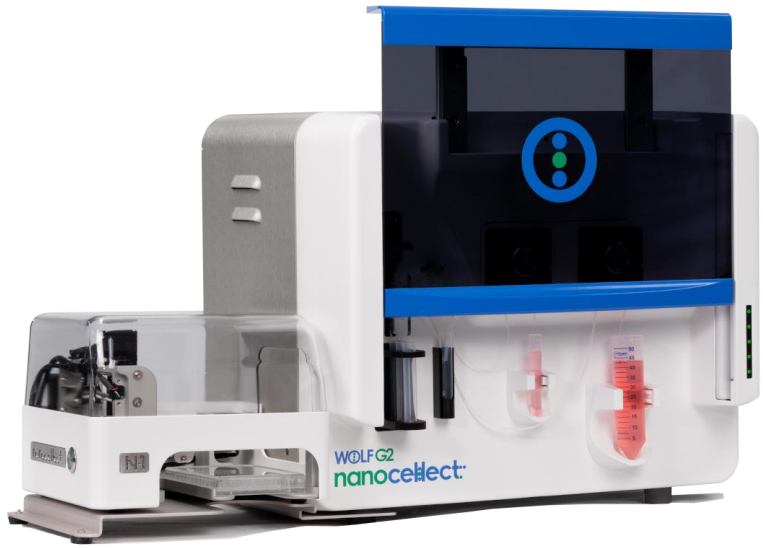
Gentle sorting – healthy cells – better science

Small & easy to use

User-friendly

Intuitive software



Safe & sterile

No contamination

No aerosols

Sterile operation

Gentle

Industry leader for cell viability

Affordable

Fewer approvals required

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Extensive online resources

WOLF Users Knowledge Base

Welcome to the WOLF Pack!

The NanoCellect Knowledge Base is designed to offer our customers the best training and support possible when using the WOLF Cell Sorter and N1 Single Cell Dispenser. Explore our content for the best experience analyzing and sorting your samples with the WOLF.

WOLF & N1 Training

- User Manual
- 1 Page Set Up-Shut Down
- Tutorial Videos
- Cartridge Insertion Tips

WOLF Basics

- Fluorophore Recommendations

Technical Support Notes

- WOLF Viewer 2.2.200 Release Note

Product Documentation

- Calibration Beads Instructions
- Calibration Beads MSDS
- Rainbow Beads MSDS

nanocellect Biomedical, Inc.

Thank you!

We want to hear from you!

info@nanocellect.com

(877) 745-7678

nanocellect Biomedical, Inc.