

LEVITAS BIO[®]

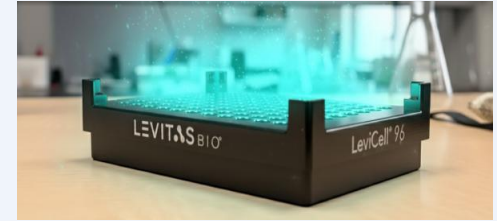
LeviSelect Cell Debris Depletion Kit

Customer-Facing Deck



Levitation Technology to the **MAX**

Cell Debris Depletion Kit



Next-Level Sample Prep Quality
For All Samples

LeviSelect™ Cell Debris Depletion Kit



Challenge

- Incomplete debris removal from challenging samples
- Yield and data quality concerns
- Lack of seamless and integrated workflow solutions



Variability



Quality



Integration



Solution

- Class-leading debris removal in <10 min
- Works across cells (fresh/frozen/fixed/fixed + permed) and dissociated tissues
- Proven LeviSelect chemistry

LEVITAS[®] BIO

Cell Debris
Depletion Kit



Payoff

- Simultaneous live cell enrichment + max debris removal
- Process nearly any sample with confidence
- Drive sample prep consistency and scalability 1 – 96 at a time

**Solution-Focused
Sample Prep:**

Standardized

Simple

Integrated

Excess Cell Debris Poses Significant Challenges to Single Cell Results



Large debris often clog microfluidics channels, resulting in sample loss



Doublet generation + barcode misassignments



RNA associated with debris = improper gene expression attribution



Overall noisier data = diminished signal to noise = loss of data

Increased costs,
lost time,
poor data quality

The promise of single cell technology is only fully realizable once we address these issues



The Benefits of Debris Depletion



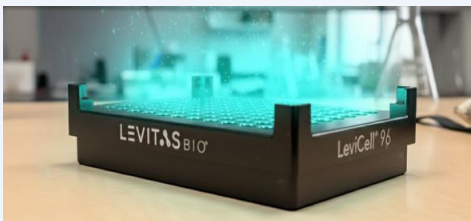
Debris depletion + levitation
"GO-TO" solution



Sweet spot of yield,
cleanup, flexibility

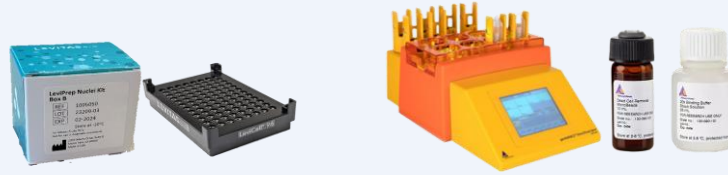


Supports nearly all cell &
tissue types¹



1. Have not evaluated FFPE tissue for compatibility and performance

Comparison to Existing Solutions in the Market



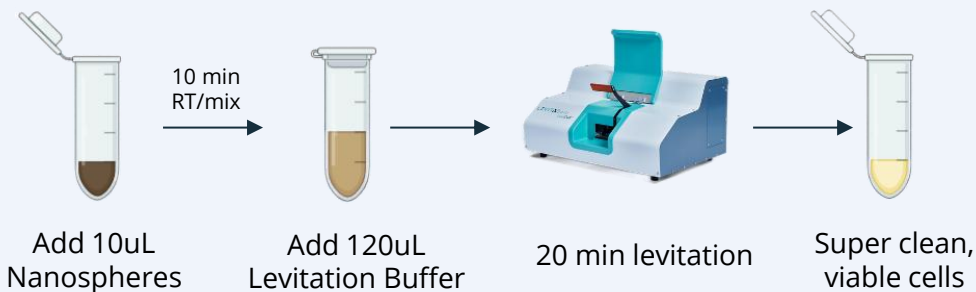
Features	LevitasBio	Company M ¹
Number of components	1	3
Hands on time (min)	<10	30 – 40
Number of steps	3	Up to 20
Centrifugation needed?	No	Yes
Cell activation	Minimal	High
Scalability	1 to 96	Up to 8
All in cost / rxn (\$)	35 – 45 ²	50



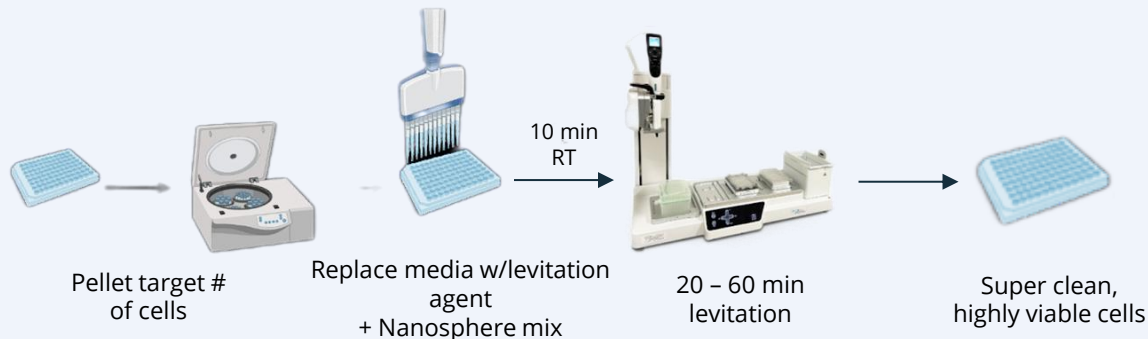
1. Requires debris removal kit, dead cell removal kit, and columns to compare to our workflow
2. VCE + debris removal per well for LC12 / LC96 / Pro

LeviSelect Debris Depletion Kit-at-a-Glance

LC1.0 (10 rxn)¹



LC12/96/Pro (96 rxn)



Proven LeviSelect NanoSphere technology



<10 min HoT



Ultraclean sample prep every time



Positive Results Across Wide Range of Tissue Debris Types



Liver



Liver | Heart
Gizzard



Liver | Kidney



Fixed Cells
Lung | Pancreas



Bladder |
Lung DTCs



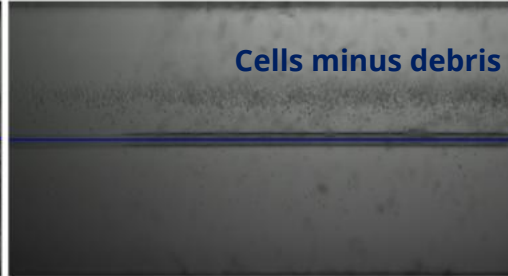
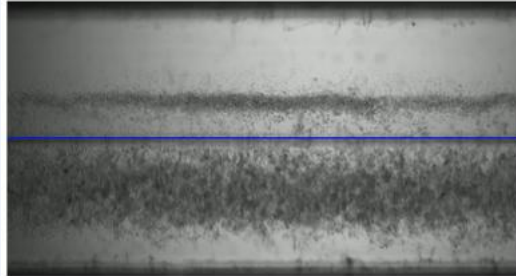
Viabilities up to **91%**
from input ranges **~100K to 3M cells**

Debris Depletion Kit Delivers Results You Can See

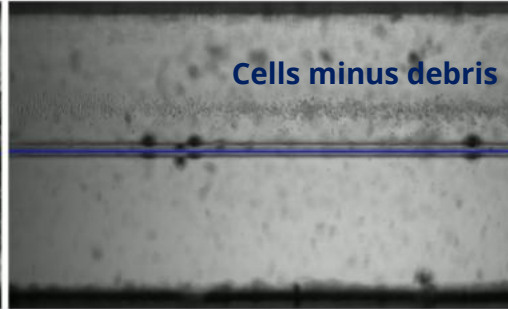
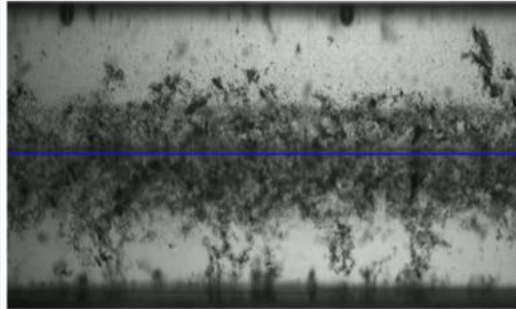
Before

After

Chicken heart
debris + 100K
H358 cells



Chicken gizzard
debris + 100K
H358 cells



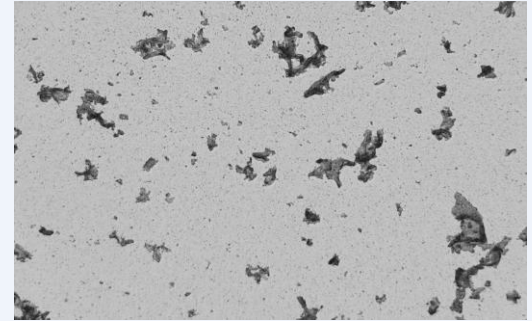
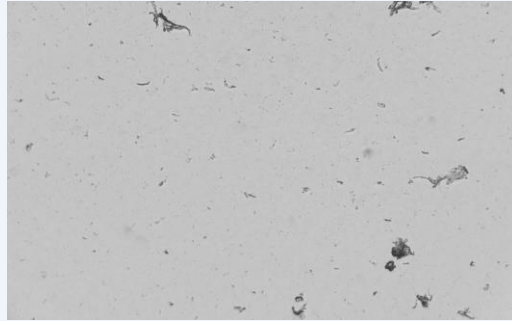
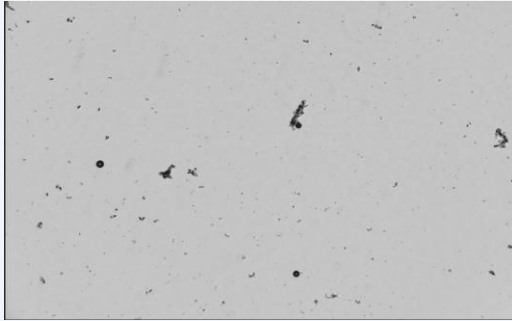
Debris Removal + High Viability Cells

Chicken gizzard + H358s

Chicken heart + H358s

Pig kidney + H358s

Input

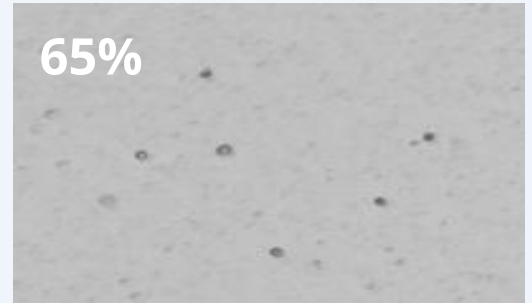
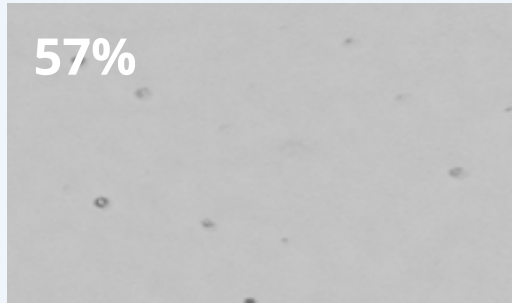
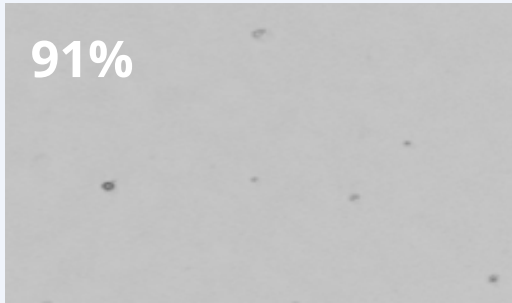


Output + Cell
Viability %

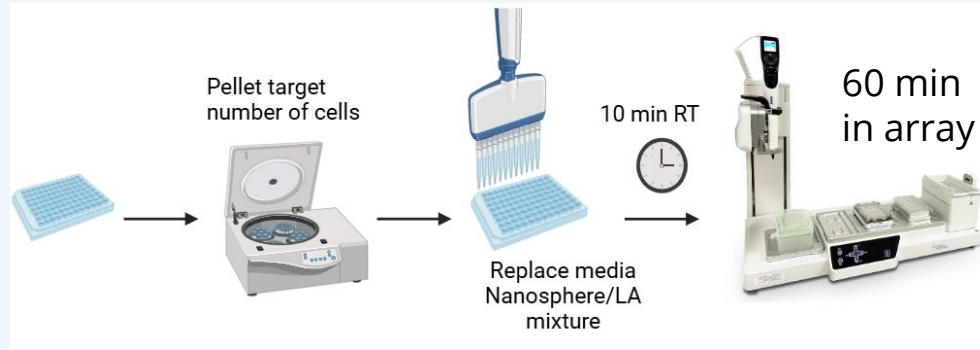
91%

57%

65%



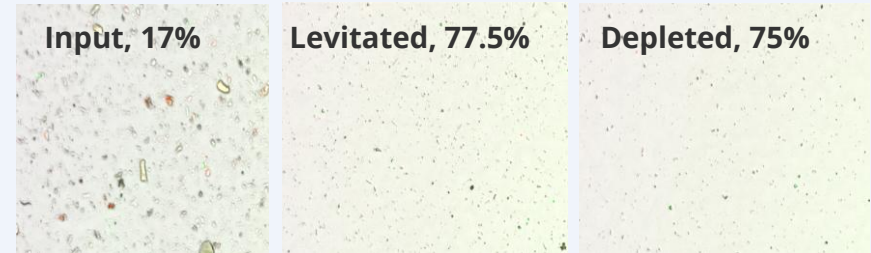
Compatibility with LC96 System



Pig kidney debris + H358 cells



Lung DTCs (fraction, viability)



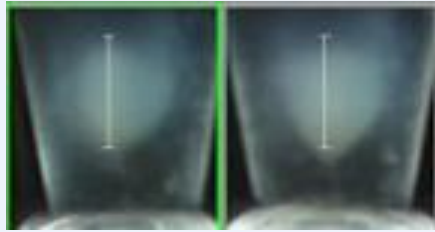
Levitation + Debris Depletion Delivers Superior Results vs Levitation Alone for Challenging Samples

Bladder Cancer DTCs

Levitation Only

Levitation + Debris Removal

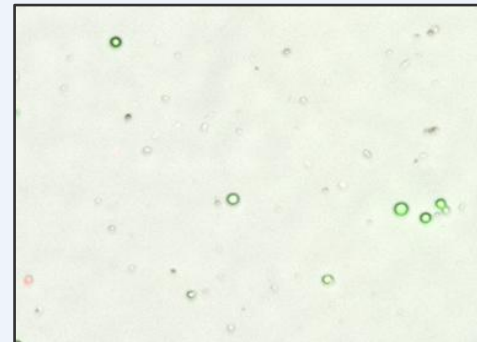
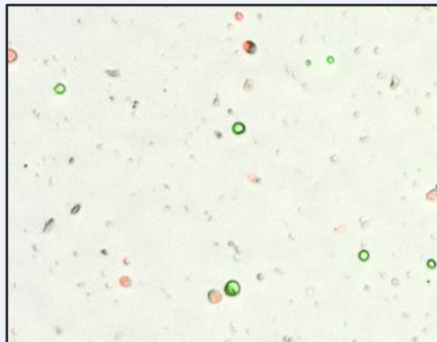
Under imager



Live Cells

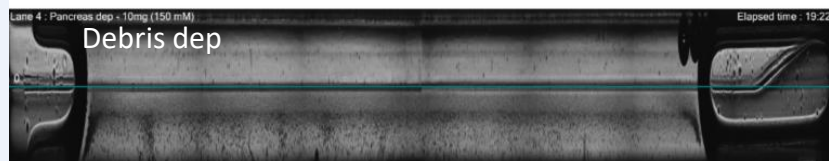
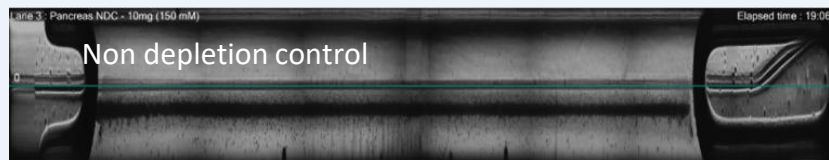
Debris

Under microscope (AOPI)

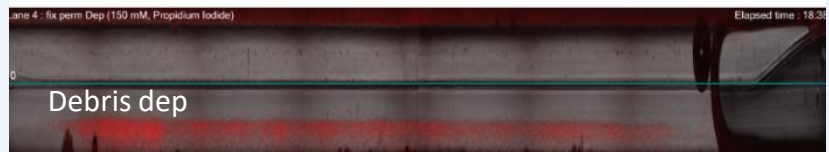
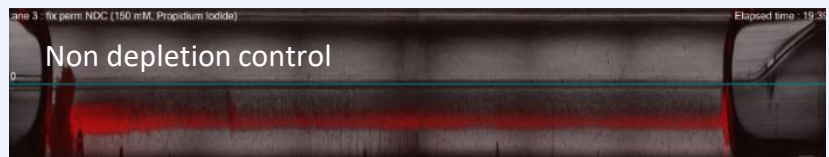


Tested on 10X and Parse Fix 'n Perm Workflows

Fixed + Perm'd mouse pancreas tissue (10X kit)



Fixed + Perm'd H358 + cow liver debris (Parse kit)



Tissue Fixation & Dissociation for Chromium Fixed RNA Profiling

Introduction

This protocol outlines how to perform tissue fixation followed by dissociation of the fixed tissue for use with Chromium Fixed RNA Profiling workflow. Storage recommendations for the fixed tissue and post-storage processing are listed in the Appendix.

Additional Guidance

This protocol was demonstrated using 25 mg of various mouse and human tissue types (fresh-frozen and fresh), including brain, heart, liver, spleen, testes, ileum, duodenum, pancreas, kidney, lung, colon, stomach, lymph, etc. See Appendix for a complete list of tissues tested along with corresponding cell yields. Optimize the protocol based on tissue type, tissue density, and dissociation efficiency.

Tissue and cells carry potentially hazardous pathogens. Follow material supplier recommendations and local laboratory procedures and regulations for the safe handling, storage and disposal of biological materials.

Specific Reagents & Consumables

Vendor	Item	Part Number
For Tissue Mixing & Fixation		
Qiagenomics	Chromium Next GEM Single Cell Fixed RNA Sample Preparation Kit	100204
Milipore	Proteome Shield Inhibitor	335390001
Sigma	Albumin, Bovine Serum, 10%, Nuclease-Free	12885
ThermoFisher Scientific	UltraPure Bovine Serum Albumin (BSA, 50 mg/ml), Alternative to Milipore Sigma product	AM296
	Formaldehyde (37% by weight), Molecular Biology, Fisher BioReagents	BP531-25
	Nuclease-Free Water (not dH ₂ O), ThermoFisher	AM9927
	PurePrep DnaSpike	08-346D
	General Purpose Forceps	10-270
	Standard Operating System	OS-850-30
	Wide-Bore Pipette Tips RT, 1.5 mL, 96-Pack (CS038218)	FLN-785A-9
	May be purchased from alternative vendors	
Corning	Phosphate-Buffered Saline, 1X without Calcium and Magnesium	21-040-CV
	TSR: T10 Buffer, 1M sterile solution, 100mL, 96-BD	E199-100AL
Additional Materials		
Blacks Lab Weighing Scale		

This list may not include some standard laboratory equipment.

10X GENOMICS

User Manual

Version 1.1- UM0027

PARSE BIOSCIENCES

Evercode™

Cell Fixation v3

For use with ECFC3300

10X Fixation Buffer (Fix + Perm)

Parse Fix, Separate Perm



Summary of LeviSelect Debris Depletion Kit

- 1 Delivers best-in-class depletion of unwanted debris, a key challenge for successful single cell experiments
- 2 Suitable across nearly all sample types (cells, tissues) and treatments (fresh, frozen, fixed, fixed 'n permed)
- 3 A compelling add-on to our LeviCell array workflow delivering scalability and per sample cost advantages





Thank you

LevitasBio drives scientific discovery by delivering solutions that enable accurate, reliable, and reproducible results

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