

3D FloTrix® vivaPREP PLUS

Architect for Cells

— Expert in 3D manufacturing of high quality cells

Outline

- **CytoNiche's Core Technology**
- **Features of vivaPREP PLUS**
- **Performance of vivaPREP PLUS**



No.1

CytoNiche's Core Technology

Core Technology: 3D FloTrix® Cell Culture Technology

Using 3D TableTrix® dissolvable microcarriers for adherent cell manufacturing

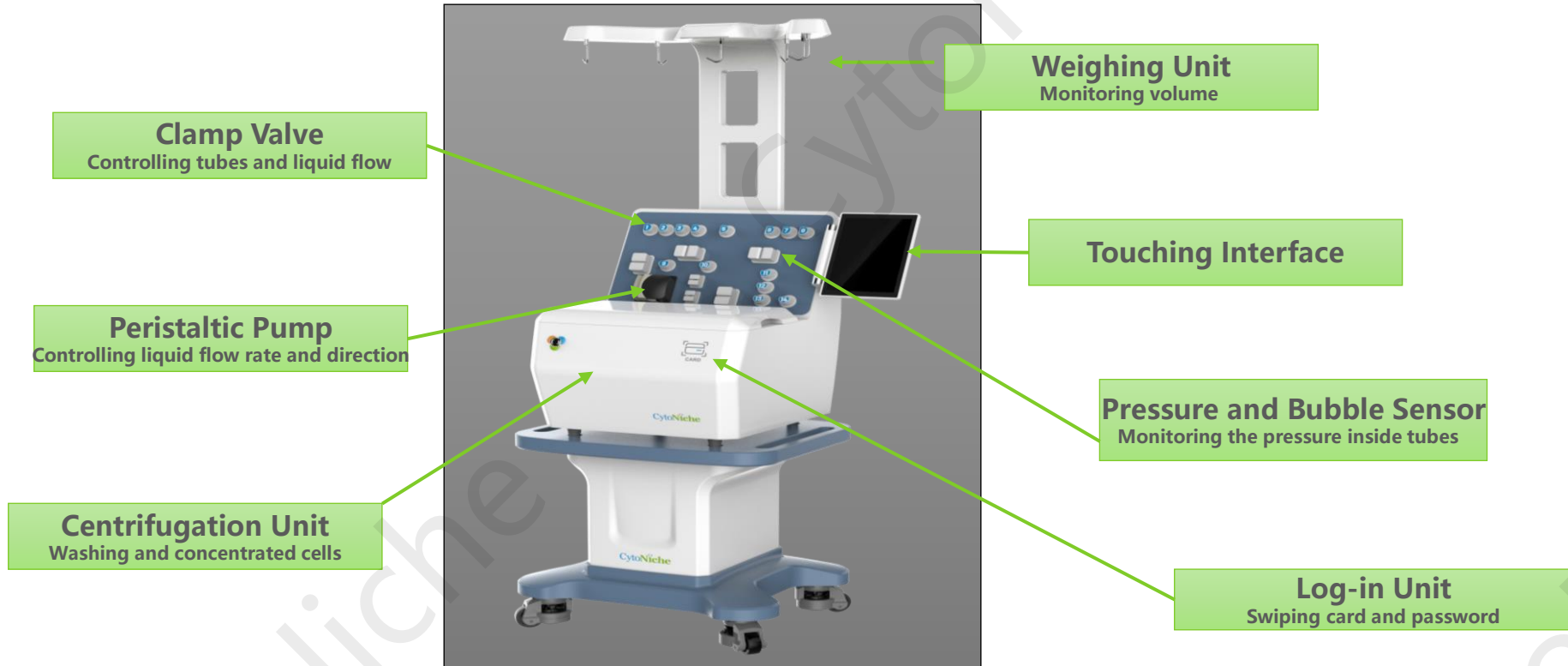




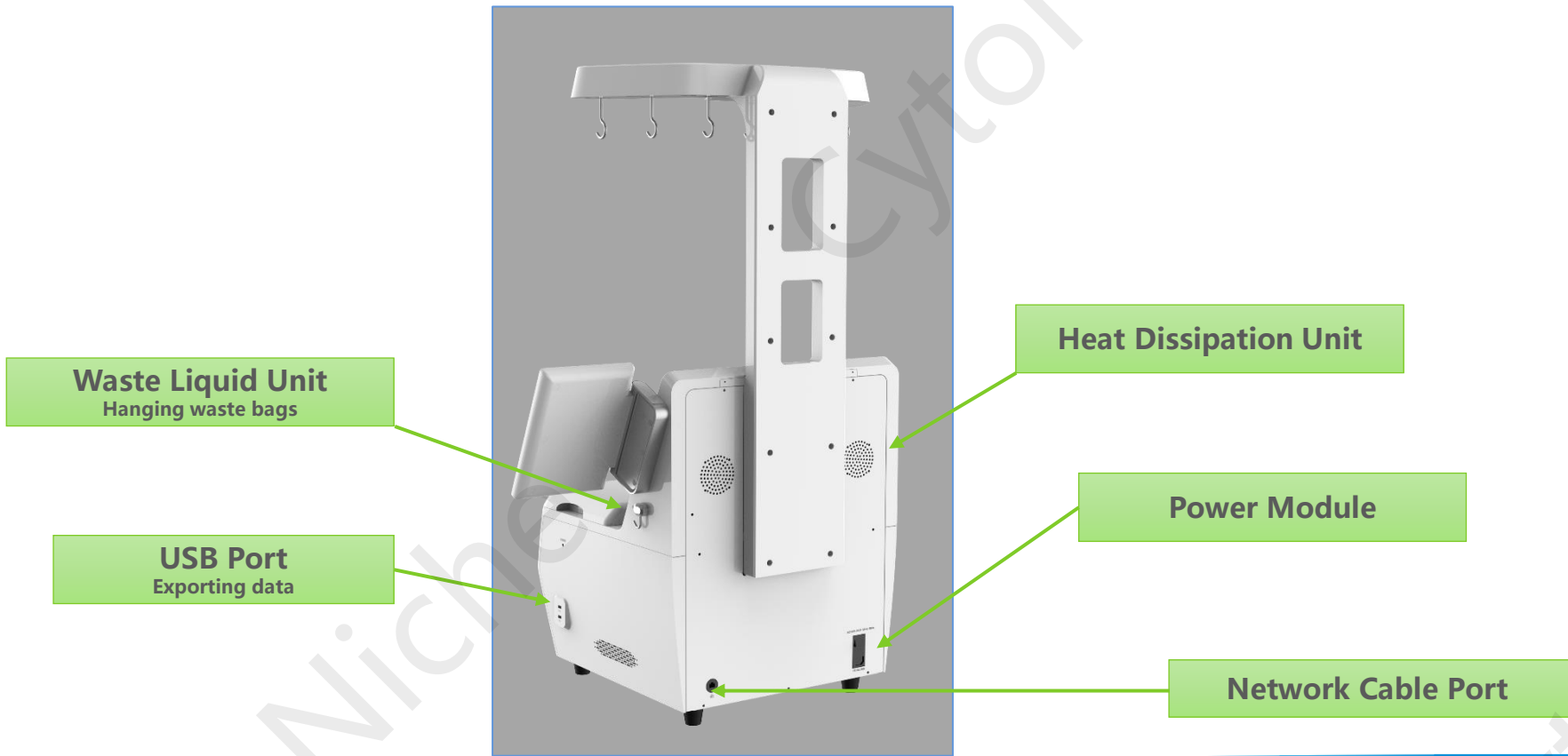
No.2

Features of vivaPREP PLUS

Components of vivaPREP PLUS



Components of vivaPREP PLUS



Features of vivaPREPPLUS---High Precision



【High-Precision Weighing Unit】

- Real time monitoring of weight changes
- Alarm system for weighing unit

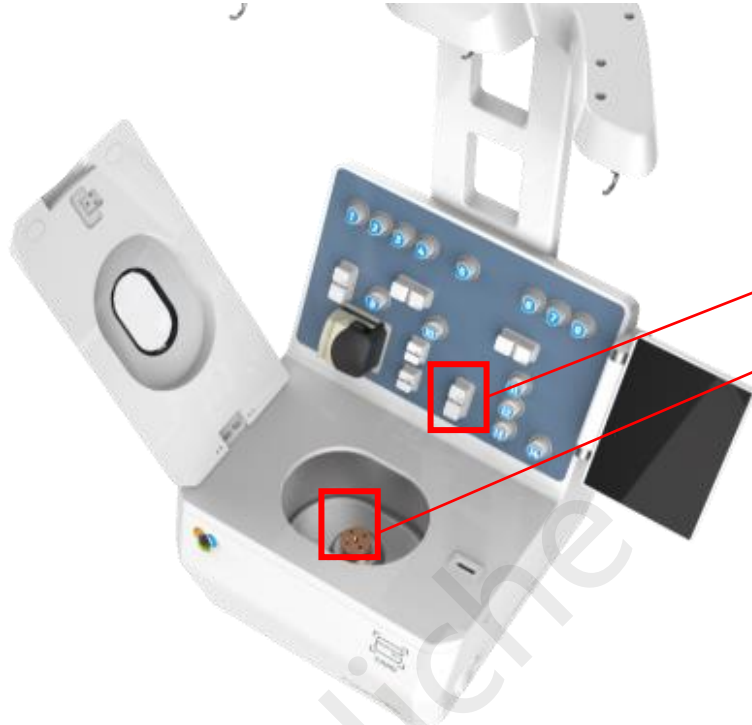
Bag Weight	Accuracy
0~500 g	< 1 g
0.5~5 kg	< 2%



【High-Precision Liquid Sensor】

- Real time monitoring of liquid flowing
- Properly feedback on abnormal situation

Features of vivaPREPPLUS---High Precision



【High-Precision Sensors】

- Pressure sensor: Real time monitoring of liquid pressure
- Liquid leakage sensor: Real time monitoring of liquid leakage

Features of vivaPREPPLUS



【Flexibility and High-Efficiency】

- Mobile base for high flexibility
- One set of vivaPREP PLUS vs 10-12 manpower



10-20 Personnel



1 vivaPREP PLUS

Hardware Summary

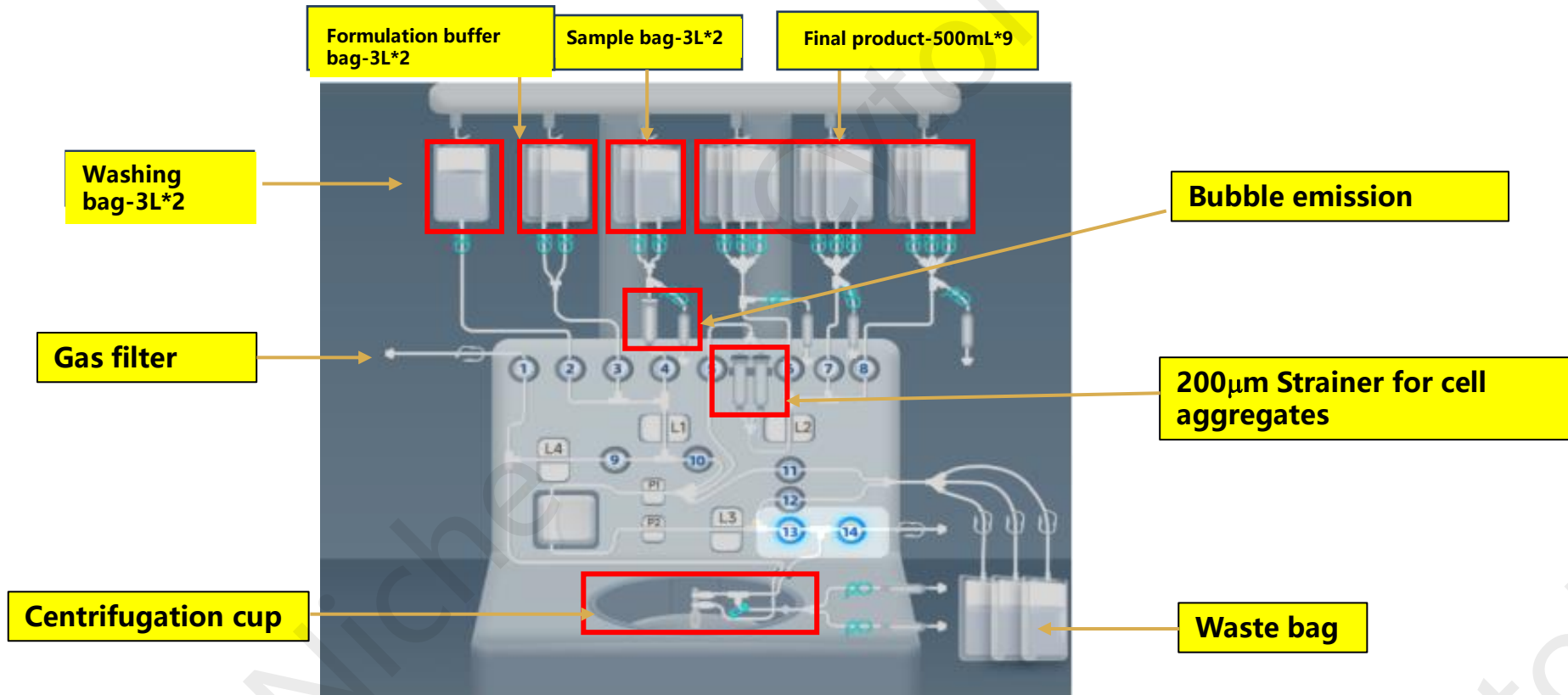


【High-Precision Weighing Unit】

【High-Precision Sensors】

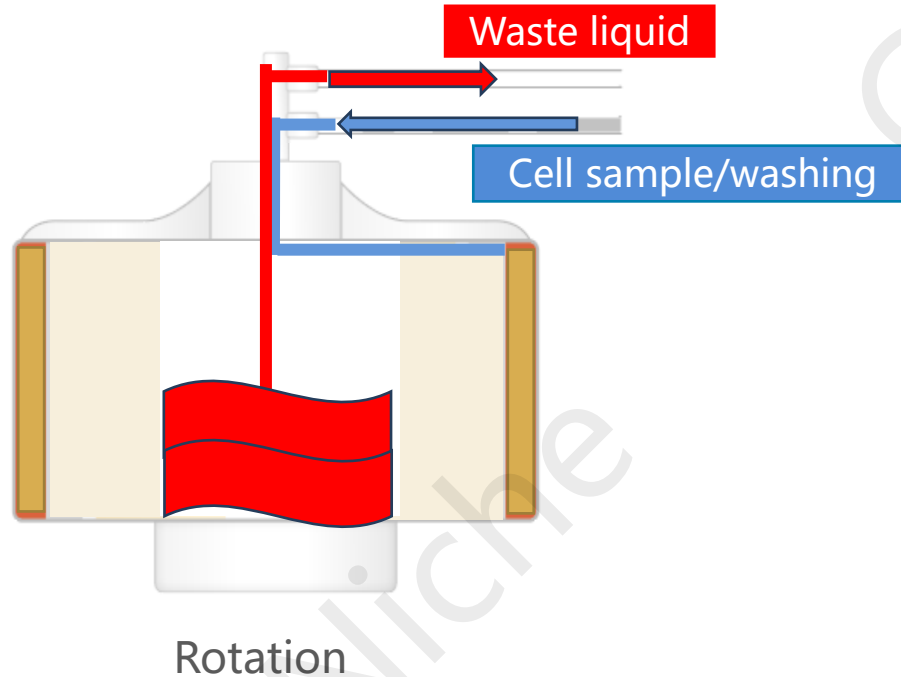
【Flexibility and High-Efficiency】

Features of vivaPREPPLUS --- Working Principle



Working Principle

Continuous flow centrifugation and concentration Process



Input

Step 1. Sample centrifugation



Step 2. Sample concentration /250mL



Step 3. Sample washing



Step 4. Sample concentration /250mL

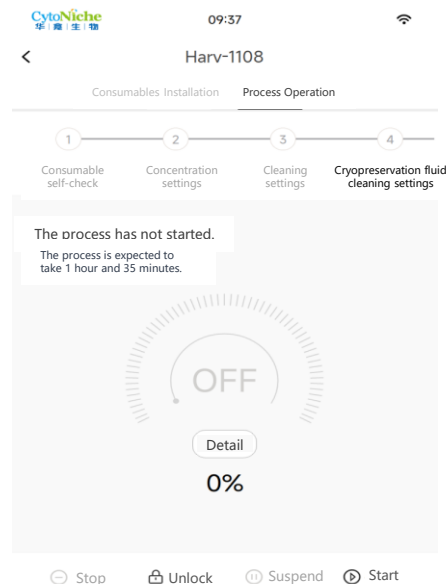
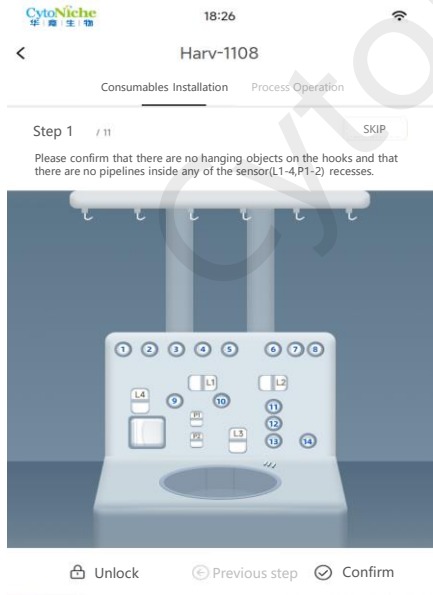
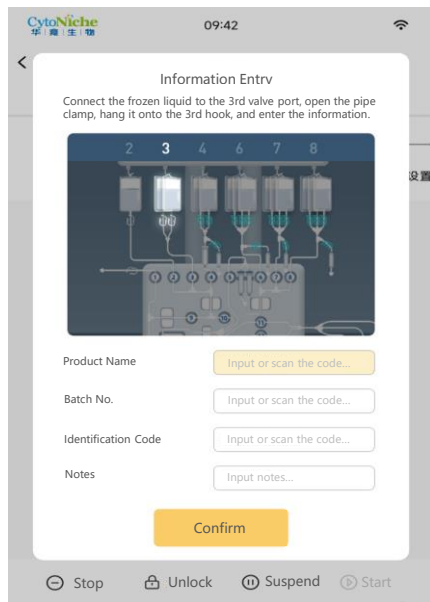


Step 5. Sample formulation(freezing buffer) /250mL



Step 6. Sample resuspension/aliquot

Features of vivaPREP PLUS --- User Friendly Operation



- Log-in
- Installation consumable kit
- Self- detection and progress monitoring

【User Friendly Operation】

- ✓ Diagram-guided step-by-step instructions

Features of vivaPREP PLUS --- Compliance

[Data Log]

< Process Records

Start Date End Date

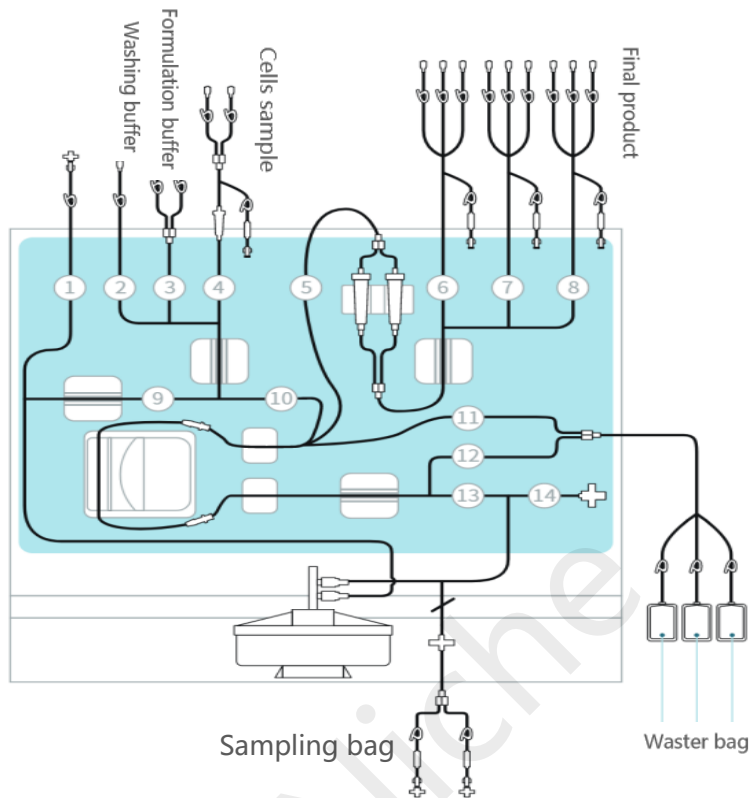
User

108 records in total

No.	Start Time	User	Process	Detail
72	2022-04-27 14:16:17	CB		
73	2022-04-27 14:05:48	CB		
74	2022-04-27 14:01:01	CB		
75	2022-04-27 13:57:01	CB		
76	2022-04-27 13:53:17	CB		
77	2022-04-27 11:53:41	CB		
78	2022-04-27 11:24:39	CB		
79	2022-04-27 11:20:03	CB		
80	2022-04-27 10:29:09	CB		
81	2022-04-27 10:25:29	CB		
82	2022-04-27 10:21:54	CB		
83	2022-04-27 10:17:52	CB		
84	2022-04-27 10:15:38	CB		

- ✓ User management
- ✓ Traceable operational process and integrated data
- ✓ Complete and protected records
- ✓ Exportable data
- ✓ Comply with 21 CFR PART 11 and GMP requirements

Features of vivaPREP PLUS --- Consumables



【Safe and Fully Closed Consumables】

- ✓ Medical-grade PVC material for tubes
- ✓ Fully closed process by welding and sealing

Summary of vivaPREP PLUS

	Basic Parameters	
Characteristics	Dimensions (W×D×H)(mm)	620×530×1770(Without base: 620×530×1182)
	Weight (kg)	70.5(Without base: 60)
	Capacity	0.1-8L of cells ($10^9 \sim 10^{10}$ MSCs) per batch
	Liquid replacement efficiency	> 99.9%
	Maximum process flow rate	18L/h
	Aliquot volume(mL)/bag	10-250mL
	Volume accuracy	< 2mL
	Fully automated, closed by welding and sealing	
	Centrifuge, wash, concentrate, formulate, aliquot	
	with touchscreen, with barcode reader, floorstanding with detachable mobile trolley	
Cells quality	Cell density deviation among different bags	< 5%
	Cell viability (in ref. initial viability)	> 90%
	Recovery rate (for <10 Billion)	> 90%

Analysis of Competitive Product



Key parameters	CytoNiche	Cytiva
Price (USD)	*****	200,000(?)
Initial volume	0.1~8L	0.1~10L
Harvesting volume	10~250ml	15~300ml
Volume accuracy	2 ml	2.5 ml
Maximum process flow rate	18L/h	10L/h
Cell recovery rate	> 90%	> 85%

【Our Strength】

- ✓ Higher cell recovery rate
- ✓ More precise control system

Performance Data of vivaPREP PLUS

【vivaPREP PLUS vs manual operation】

	Cell number	Manpower	Capacity/ manpower	Cells recovery rate	Cells viability
Manual operation	1×10^{10}	10	1×10^9	80-90%	86-92%
vivaPREPPLUS	1×10^{10}	1-2	1×10^{10}	> 90%	93-95%

【vivaPREP PLUS vs competitor】

	Cell number	Initial volume	Efficiency(cells/h)	Cells recovery rate	Cells viability
Competitor	1×10^9	1L	5×10^8	61.42%	96.77%
vivaPREPPLUS	1×10^{10}	5L	33×10^8	95%	97.78%

Product Bundles

Category No.	Product Name	Qty	Spec
vivaPREP PLUS	3D FloTrix® vivaPREP PLUS Cell Processing System	1 unit	
vivaPREP-PLUS-00	3D FloTrix® vivaPREP PLUS Disposable Cell Processing Kit	1 cas	2pc/cas

Thank you

Launching a new era for industrialising cell manufacturing



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