



GE 细胞治疗解决方案

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From this.....

To this.....



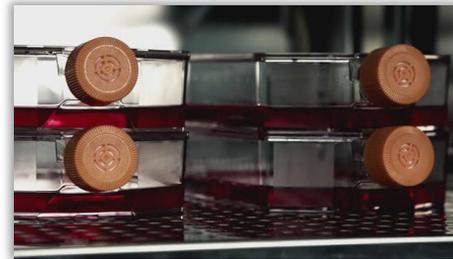
Challenges in Cell Therapy

Risk minimization, Optimization, Cost reduction, Time saving

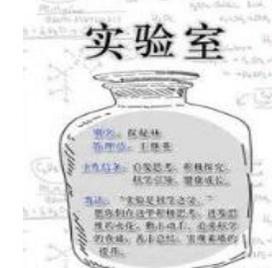
Manual & Mistake Prone



Single / Low Volume



Notebook



Automated & Standardized



Multiple / High Volume



Connected & Traceable



GE 细胞处理设备及试剂



采血



分离



激活



修饰



扩增



收获



制剂



冻存



回输

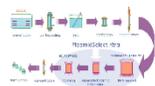


VIA Freeze



Ficoll

STEMCELL TECHNOLOGIES
ImmunoCult™ Human T cell activators CD3/CD28 & CD3/CD28/CD2



Plasmid Purification Workflow



Xuri W25 and Cellbags



C-Pro



C-Pro



VIA Freeze



Sepax S100



VIA Thaw

STEMCELL TECHNOLOGIES
EasySep™ Release CD3 Positive Selection Kit



Viral Vector Workflow



Xuri™ Growth Factor (IL-2, IL-15, IL-21)



Sefia



Sefia



VIA Thaw



Sefia



C-Pro



ReadyKart



Xuri T-Cell Expansion Media

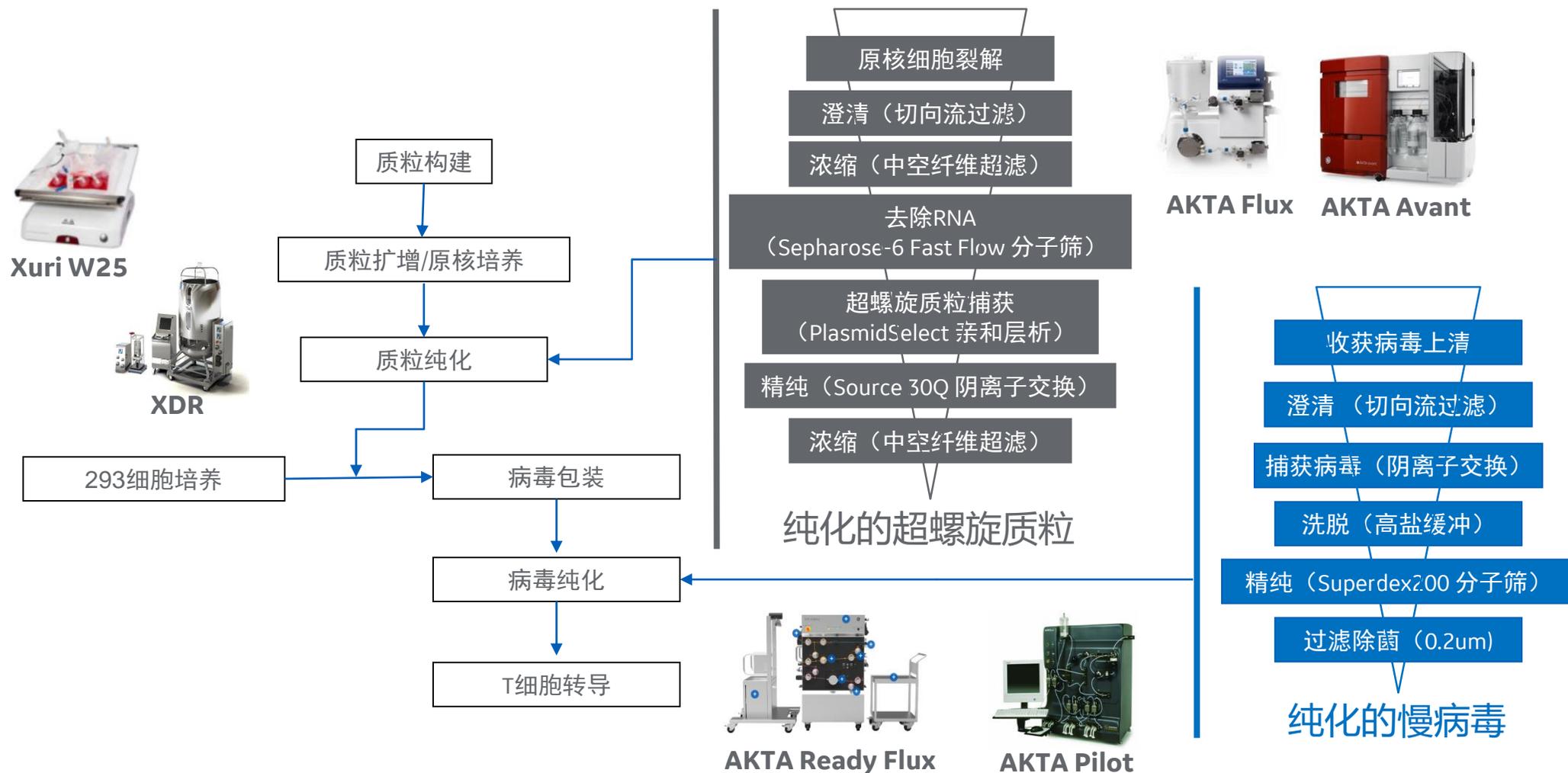
STEMCELL TECHNOLOGIES
ImmunoCult™-XFT T-Cell Expansion Media

Launched

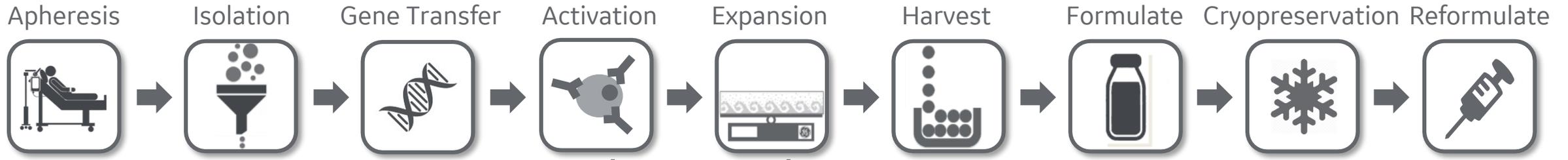
In development



细胞治疗-病毒制备



Cell Therapy Workflow – Xuri Cell Expansion System



High density
Single use
Enclosed
Scalable
GMP Compliance
USP <1043>
Drug Master Files

The New York Times

December 9, 2012

In Girl's Last Hope, Altered Immune Cells Beat Leukemia

By DENISE GRADY

PHILIPSBURG, Pa. — Emma Whitehead has been bounding around the house lately, practicing somersaults and rugby-style tumbles that make her parents wince.



Xuri W5



Xuri ILs



Xuri W25



Xuri T cell medium



媒体报道

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KEVIN MCCAFREY
AUGUST 30, 2017

Novartis' CAR-T therapy, now approved, faces questions about price and side effects

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Photo Credit: Brent Stilton for Novartis/Verbatim Agency

The FDA on Wednesday approved Novartis' Kymriah, the first in a new generation of promising cancer treatments known as CAR-T therapies.



Rewriting Life

Biotech's Coming Cancer Cure

Supercharge your immune cells to defeat cancer? Juno Therapeutics believes its treatments can do exactly that.

by Antonio Regalado June 18, 2015



Xuri™ W5/W25 现代化培养体系

1. 摇动培养平台，细胞状态更好

气体、培养基混合充分均匀，细胞无接触抑制

2. 一次性体系，无交叉污染，更安全

一次性细胞袋，杜绝培养箱交叉污染，非介入PH,DO检测

3. 可扩展、灌流培养

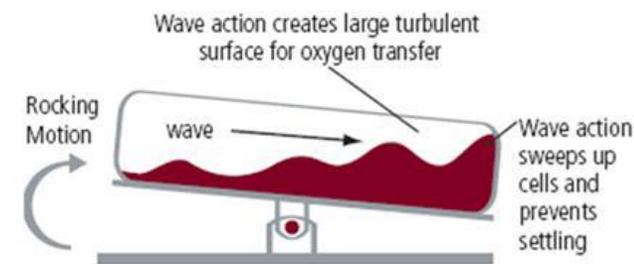
高细胞密度保证收获更多细胞，满足不同治疗所需，同时减少车间占地

4. 低成本，大大缩减工作量

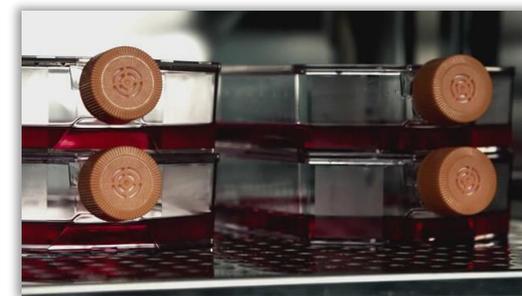
更低耗材，人员等成本消耗

5. 自动化远程控制，更方便

预设步骤/参数，设备自动运行，UNICORN远程控制



VS



Cell therapy workflow –Cell Separation by Sepax C-Pro



- Compact system-maximize lab space
- Fully-automated and closed system
- Single-use kits
- GMP compliance
- >700 units , >100 countries
- User friendly processes
- Barcode scanner available to facilitate full traceability



媒体报道

Gene therapy to fight a blood cancer succeeds in major study

The Associated Press - By Marilyn Marchione - AP Chief Medical Writer

February 28, 2017 1:16pm



In this May 2016 photo provided by Kite Pharma, cell therapy specialists at the company's manufacturing facility in El Segundo, Calif., prepare blood cells from a patient to be engineered in the lab to fight cancer. The experimental gene therapy, called CAR-T cell, turns a patient's own blood cells into specialized cancer killers and worked in the study, with more than one third of very sick lymphoma patients showing no sign of disease six months after a single treatment, its maker said Tuesday, Feb. 28, 2017. (Kite Pharma via AP)

1 of 2



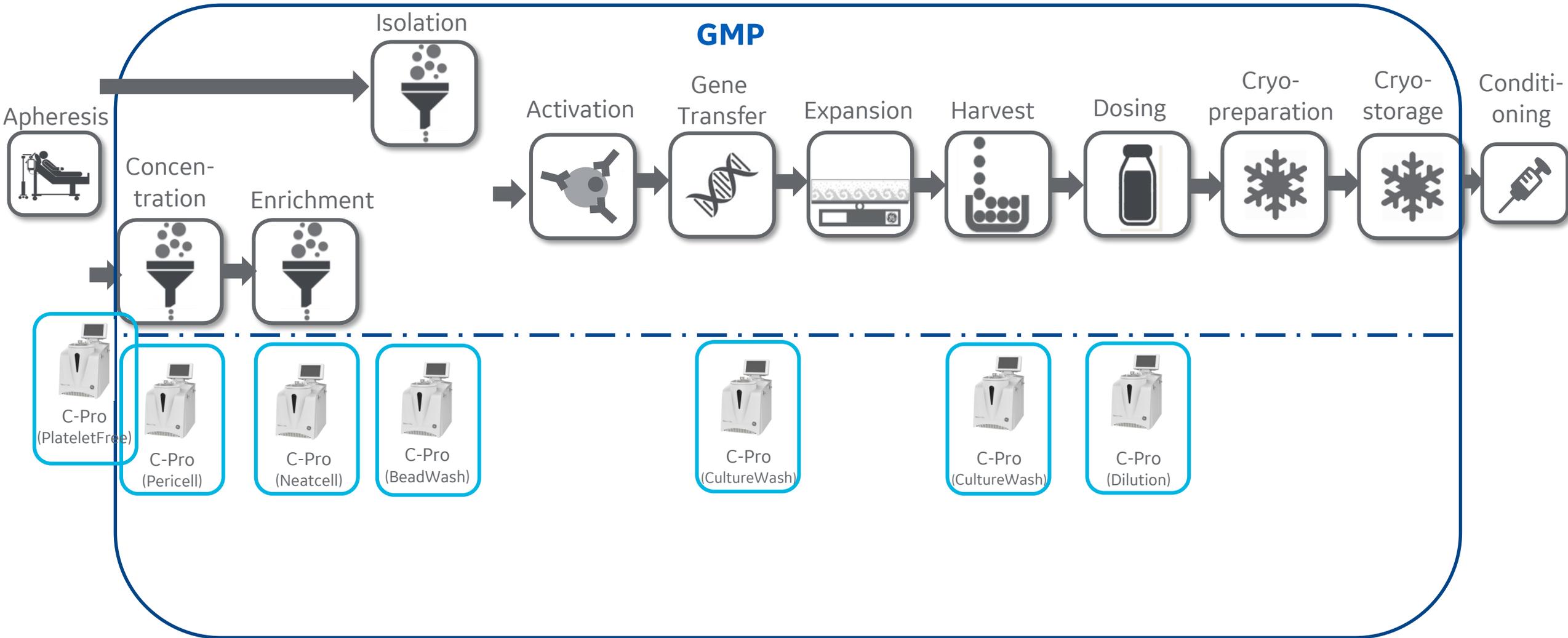
Sepax C-Pro: Tailored applications for Cell Therapy



- **PeriCell C-Pro:** Cell Concentration, plasma depletion
- **NeatCell C-Pro:** MNC isolation via a density gradient medium
- **CultureWash C-Pro:** Wash, concentration, and medium exchange
- **Dilution C-Pro:** Dilute or split cellular products into multiple bags



New protocols developed for CAR-T production



Sefia –Fast Cell Processing for large volumes

Concentration, Washing, Buffer exchange, Final formulation

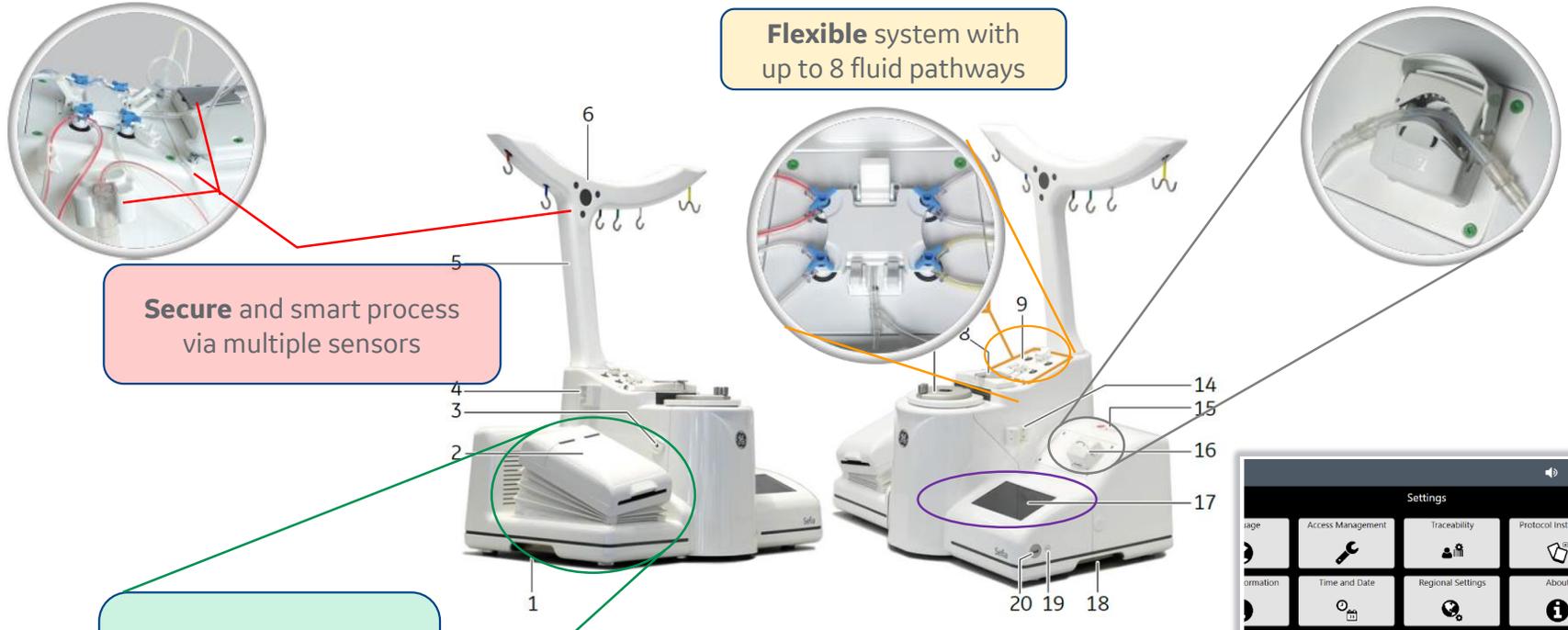
Fast and large volume processing up to 10L

Flexible system with up to 8 fluid pathways

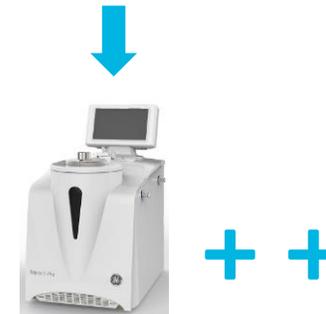
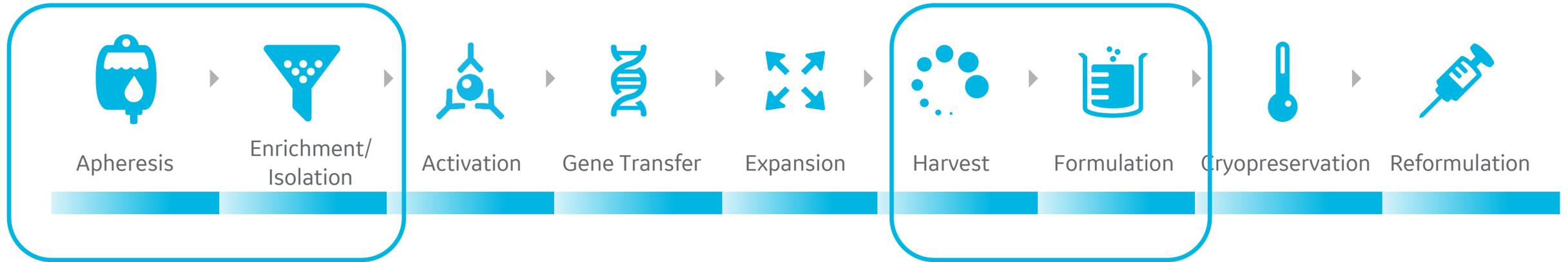
Secure and smart process via multiple sensors

Thermal Mixer platform : 4 – 37°C and mixing

Intuitive user guidance, Access management and traceability



Cell Processing



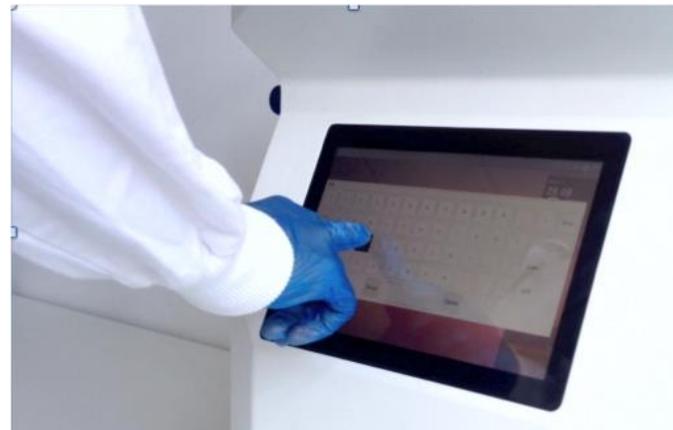
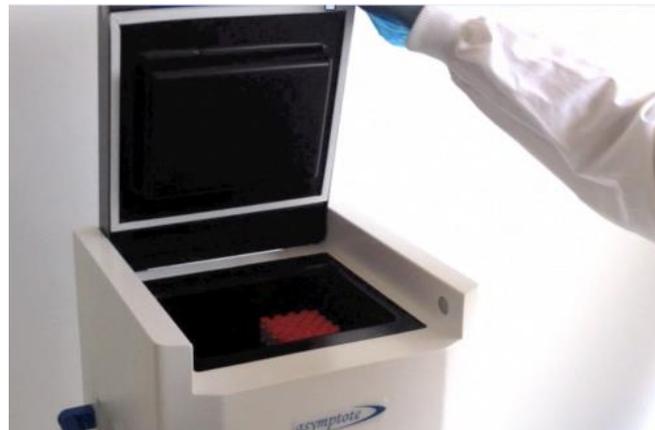
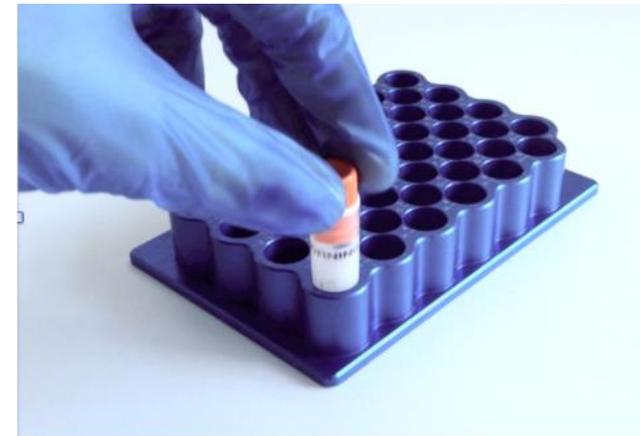
Premier Protocol
Upstream Processing
= PlateletFree + NeatCell

FlexCell Protocol
Downstream Processing
= Concentration + Washing + Final Formulation



Asymptote VIA Freeze

VIA Freeze Duo with 2ml vial sample plate



Asymptote VIA Freeze

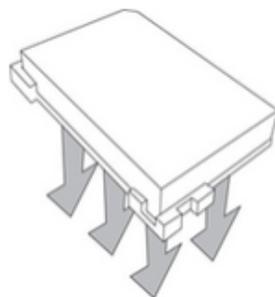
无液氮控速降温系统



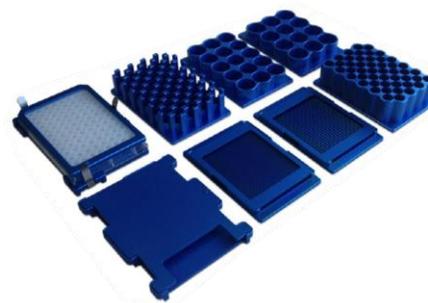
无需液氮制冷



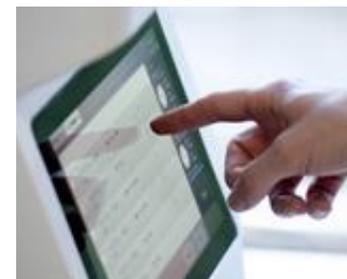
热传导降温



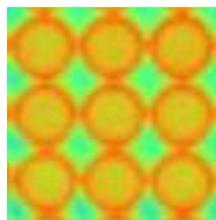
多种样品板



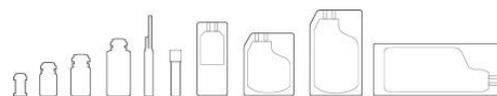
精密/远程控制



安全/GMP操作



样品间差异小



储存形式多样

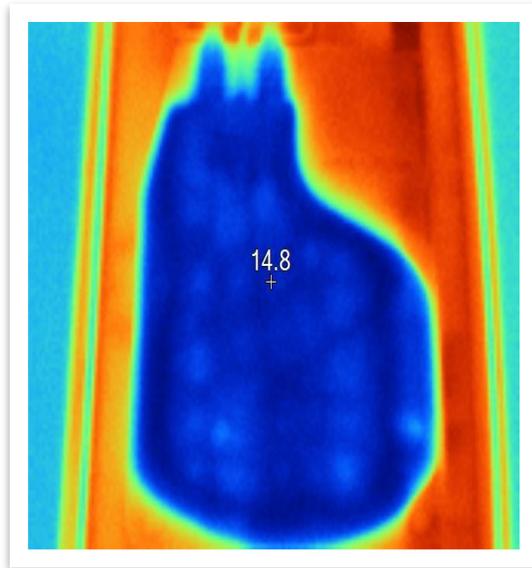


临床可追溯性
21 CFR Part 11



The VIA Thaw series

自动化，干热传导细胞复苏



均一加热，自动混匀



1. Switch on and wait for a green light.
2. Insert a frozen vial.



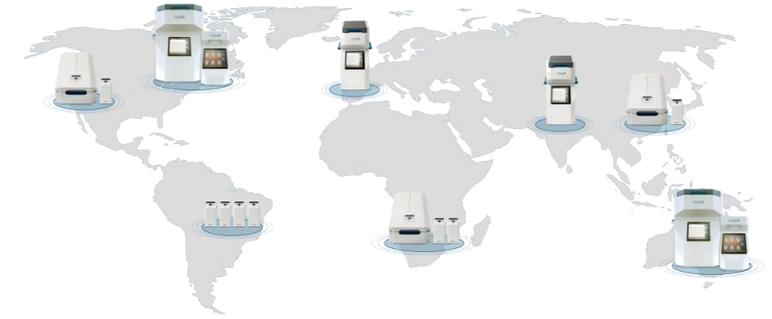
3. Vial automatically ejected when thawed.



简易操作，可追溯



Cryochain for advanced Medicine --Standardize, Monitor, Track



VIA Freeze range
Liquid N2-free
controlled rate
freezers



VIA Thaw series
Automated, dry
conduction thawers



my.Cryochain
Centralized
cryochain control



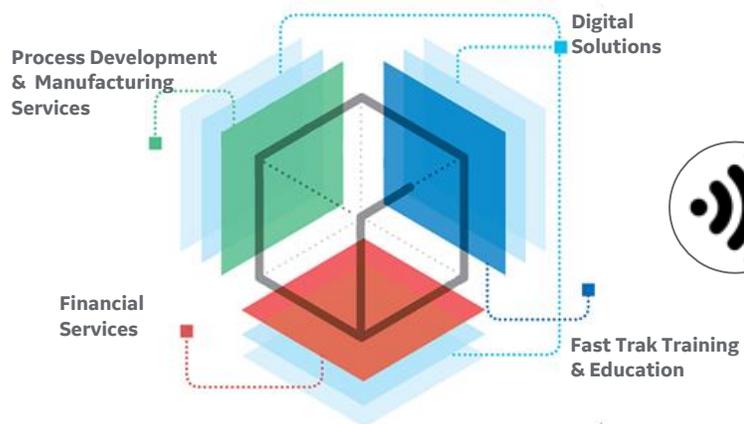
Asymptote has an end-to-end
cryochain solution for most
cryovial and container types



细胞治疗企业级解决方案

Enterprise Services

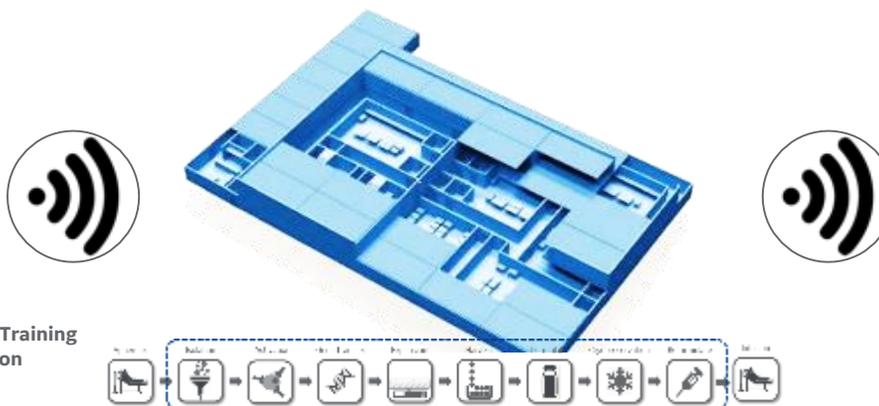
Complete Services... Conception to Scale



- 工艺开发 (Fast Trak @ CCRM)
- GMP生产服务
- 完整的人员培训，加速扩产
- 工艺自动化 & 集成的数字化管理

FlexFactory

Cell Therapy Suite... Separation to Formulation



- 封闭式、自动化工艺
- 工艺指导的厂房设计& 优化
- 客户需求出发的定制化技术，整合 GE 和 non-GE 技术，

KUBio

Complete Facility... Labs & Suites



- “Cell Therapy solution” 模块式厂房设施-- 2,000 人次/年
- BSL2 验证 & 国际工程标准
- “Turnkey” 完整解决方案

Mission: Dependable partner that can support from clinical through commercial phases



