

携手黄河 实验无忧

Seahorse实验操作



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15626050870

广州黄河仪器科技有限公司

目录

- 前期准备工作
- 实验前一天
- 实验当天
- 数据分析

➤ 前期准备工作

➤ 实验前一天

➤ 实验当天

➤ 数据分析

1) 确定研究方向/所需细胞, 官网查阅文献

https://www.agilent.com/search/?N=4294836537

Refine Results


SEARCH

View per page: 20 | 1 - 20 of 6855 results

Agilent Cell Analysis Publication Database

The Agilent Cell Analysis Publication Library provides an easy way to search scientific publications that reference and/or cite Agilent products. Search publications by research area, cell type, cell line, instrument, assay, or author. The resulting publications can be reviewed with links to the abstract, in the Quick View, or be exported in MS Excel format and reviewed offline at a later time. (Click on the Download Results button to compile the results)
For Research Use Only. Not for use in diagnostic procedures.

[Download Results](#)



Publication

Demethylation of the RB1 promoter concomitant with reactivation of TET2 and TET3 impairs gastric carcinogenesis in K19-Wnt1/C2mE transgenic mice

Journal: Life Sci / Publication Date: December 15, 2020 / Author: Cao D, et al.

Quick View [Supporting Products](#)

2) 了解现有仪器型号,确认耗材



安捷伦 Seahorse XF Pro 分析仪






安捷伦 Seahorse XFe96 分析仪



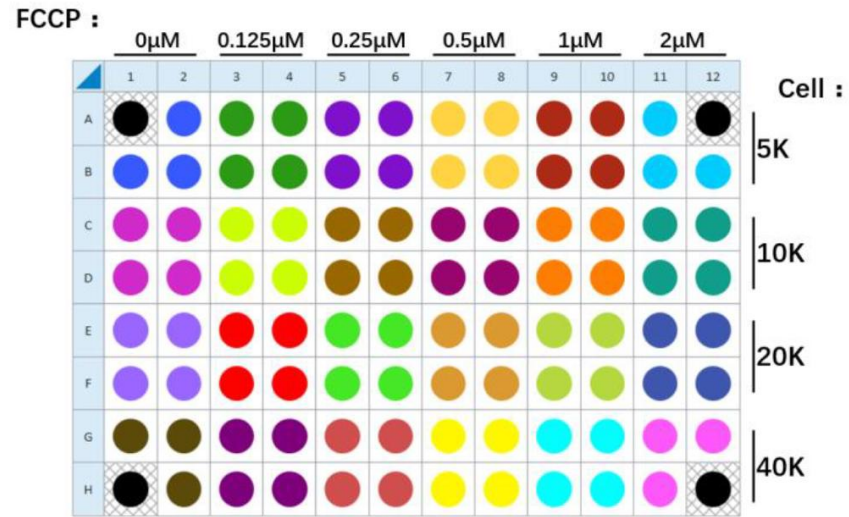
安捷伦 Seahorse XFe24 分析仪



安捷伦 Seahorse XF HS Mini 分析仪

板规格				
微室体积	2 μ L	2 μ L	7 μ L	2 μ L
控制器	运行 Windows 10 (64 位) 连接分析仪的触屏式电脑	运行 Windows 10 (64 位) 连接分析仪的触屏式电脑	运行 Windows 10 (64 位) 连接分析仪的触屏式电脑	运行 Window 10 (64 位) 的集成式全彩触摸屏界面
软件	Wave Pro Controller 软件包含预载模板, 用于快速实验设计、实时自动计算速率、提供数据解析工具和导出选项	Wave Controller 软件包含预载模板, 用于快速实验设计、实时自动计算速率、提供数据解析工具和导出选项		集成软件指导用户进行标准分析设置, 实时自动计算速率, 提供简单的文件传输, 便于数据分析。基于云的 Seahorse Analytics 软件, 提供分析工具和数据导出选项
适用于	<ul style="list-style-type: none"> - 表型分析筛选 - 一次测试多个条件 - 剂量响应研究 	<ul style="list-style-type: none"> - 表型分析筛选 - 一次测试多个条件 	<ul style="list-style-type: none"> - 胰岛 - 较小的模式生物 	<ul style="list-style-type: none"> - 数量有限的原代细胞 - 呼吸作用弱的细胞类型 - T 细胞亚群
主要优势	<ul style="list-style-type: none"> - 通量极高的 XF 分析仪 - 极高的实验灵活性 - 经验证适用于低氧分析 - 经验证适用于 16-42 °C 检测温度 (需低于环境温度 8-20 °C) - 高灵敏度 XF 分析仪 - 可进行自动化集成 - 经验证的理想测量范围 - 分析仪器确认服务 - 兼容 XF Pro QC 试剂盒 - Wave Pro 数据质量视图 	<ul style="list-style-type: none"> - 通量极高的 XF 分析仪 - 极高的实验灵活性 - 经验证适用于低氧分析 - 经验证适用于 16-42 °C 检测温度 (需低于环境温度 12-20 °C) 	<ul style="list-style-type: none"> - 经验证适用于低氧分析 - 经验证适用于 16-42 °C 检测温度 (需低于环境温度 12-20 °C) 	<ul style="list-style-type: none"> - 高灵敏度 XF 分析仪 - 可靠而可重现的低耗氧率 (OCR) 测量 - 便于通过简化的界面进行设置和运行
兼容的板型号	<ul style="list-style-type: none"> - XF Pro M 板 - XF96 板 - XFe96 PDL 板 - XFe96 细胞球体板 - XFe96/XF Pro 板 - XFe96/XF Pro PDL 板 	<ul style="list-style-type: none"> - XF96 板 - XFe96 PDL 板 - XFe96 细胞球体板 - XFe96/XF Pro 板 - XFe96/XF Pro PDL 板 	<ul style="list-style-type: none"> - XF24 V7 板 - XF24 V28 板 - XF24 胰岛捕获板 	<ul style="list-style-type: none"> - XFp 迷你板 - XF HS 迷你板 - XFp PDL 迷你板 - XF HS PDL 迷你板

96孔



线粒体压力：第一板确定最佳细胞密度和FCCP浓度

第二板再做对比试验

糖酵解速率：第一板确定最佳细胞密度

第二板再做对比试验

24孔



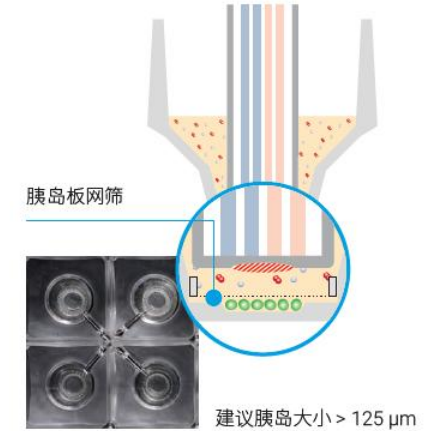
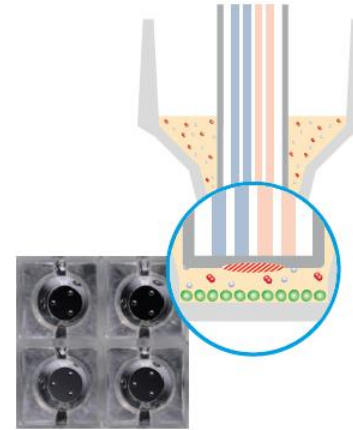
线粒体压力：第一板确定最佳细胞密度

第二板确定最佳FCCP浓度

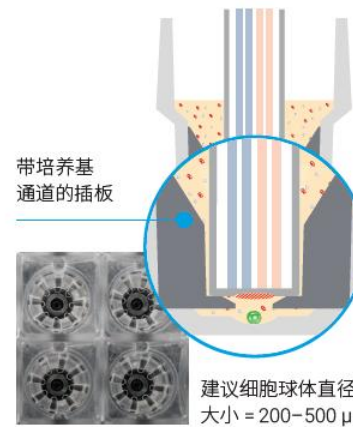
糖酵解速率：第一板确定最佳细胞密度

第二板再做对比试验

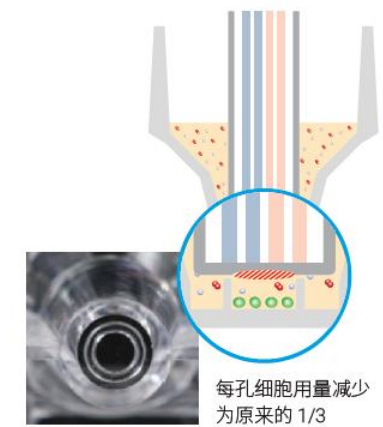
选择合适的消耗品进行实验



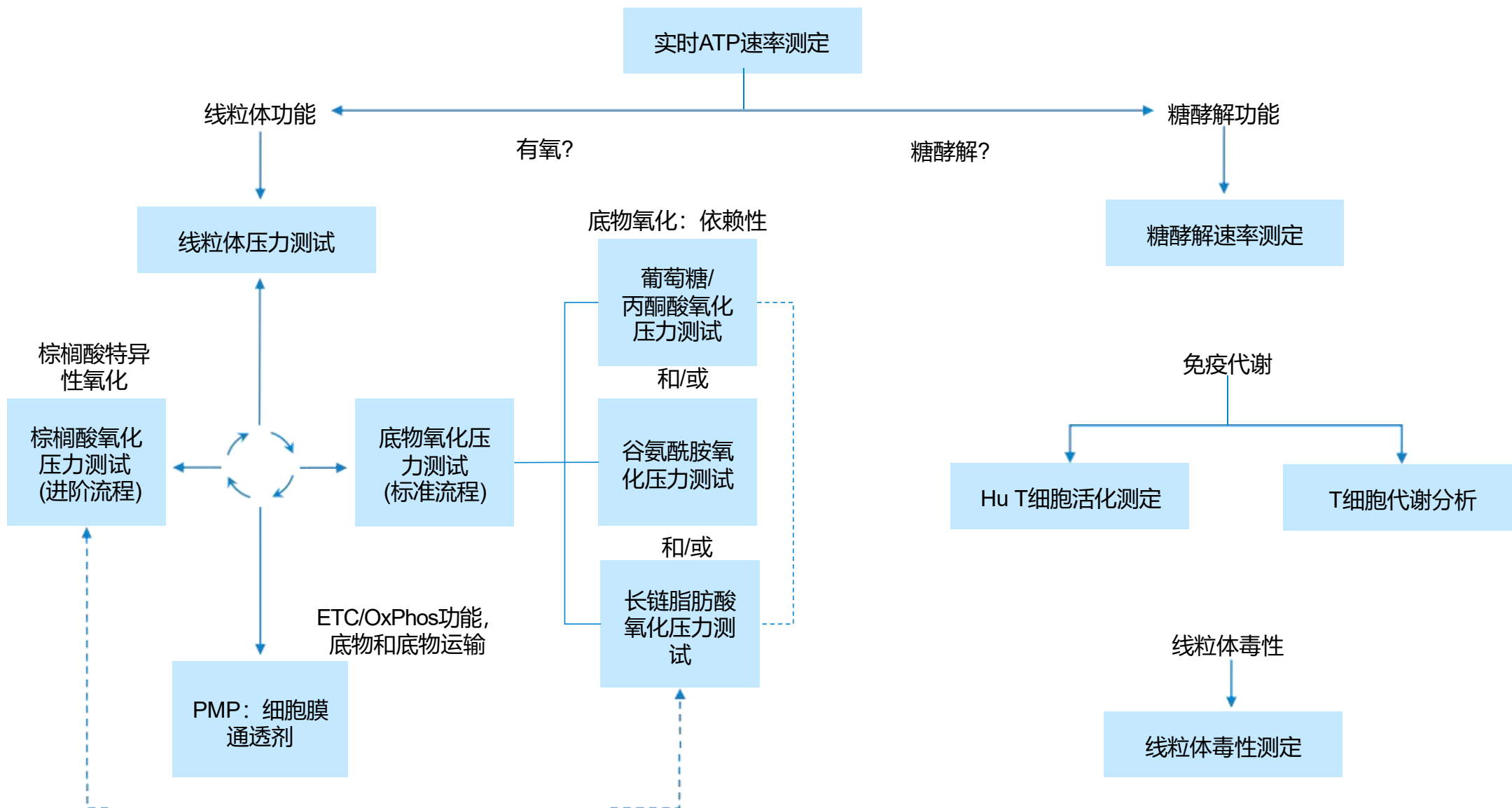
细胞球体微孔板



XF HS 迷你板



3) 了解研究参数/试剂盒



How to run an assay

1. Gather materials
2. Prepare for assay
3. Set up assay
4. Run assay
5. Analyze results
6. Beyond the basics

Seahorse XF Assay Learning Center

Select your XF Instrument Type

XFe96

XFe96

XF96

XFe24

XF24

XFp

XF HS Mini



& resources for a successful Assay

introduce you to the Seahorse XF assay workflow, with a focus on procedures and techniques to ensure optimal XF assay performance and results. As you read through each section, the procedures refer to using the Agilent Seahorse XF Real Time ATP Rate Assay to perform initial cell characterization. The techniques described apply to all Seahorse XF Assays, such as seeding adherent cells, loading injection ports, etc. Only the required consumables will vary according to your XF Analyzer model and XF Assay Kit. Select your XF Analyzer using the drop-

<https://www.agilent.com.cn/en/product/cell-analysis/how-to-run-an-assay>

5) XF 实验基本流程——收集材料

Before XF Assay

Day of XF Assay

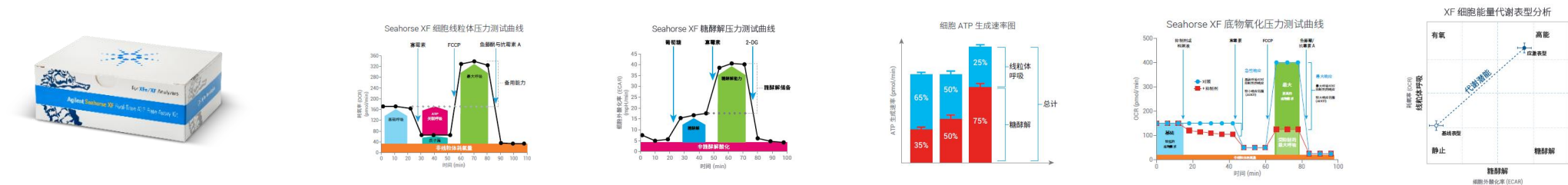
After XF Assay



Fluxpak



Assay Kits



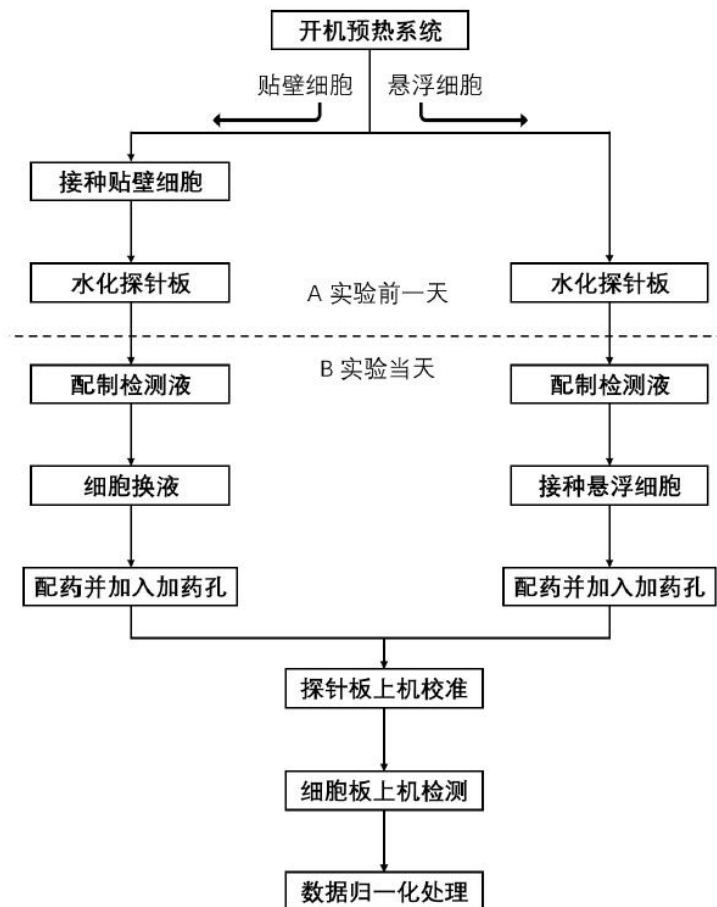
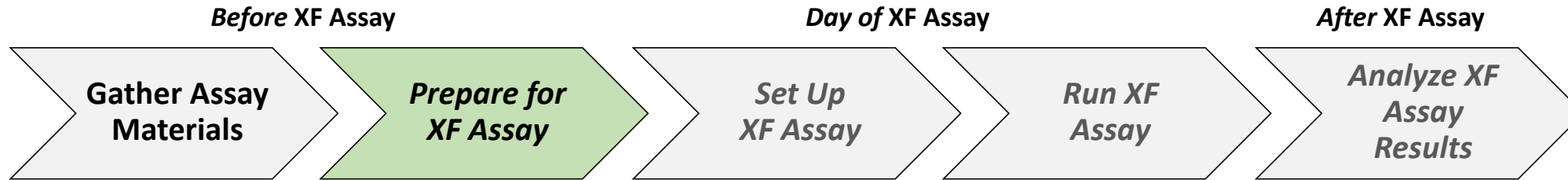
Assay Medium

Complete XF media typically includes:

- Seahorse XF DMEM, pH 7.4
- Seahorse XF RPMI, pH 7.4
- Seahorse XF Glucose
- Seahorse XF Pyruvate
- Seahorse XF Glutamine

- 前期准备工作
- **实验前一天**
- 实验当天
- 数据分析

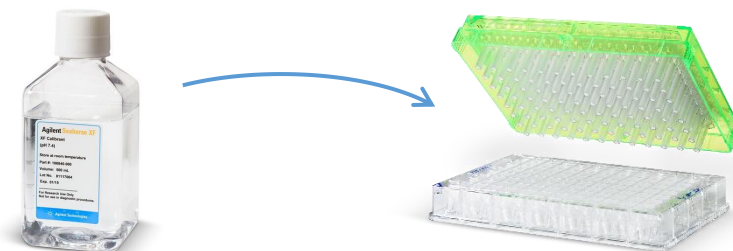
XF 实验基本流程——开始实验



- ✓ 仪器建议一直开机;
- ✓ 如果平常是关机状态, 请提前一周开机

1、水化探针板

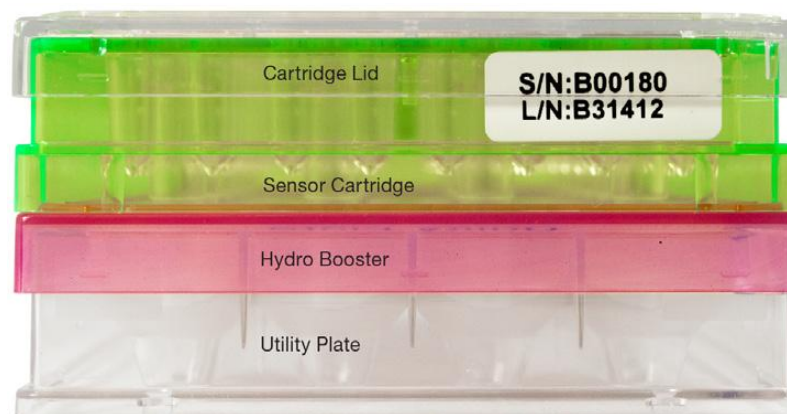
1.



96孔/8孔仪器: 200 μ L / well

24孔仪器: 1ml/well

2.



盖子

探针板

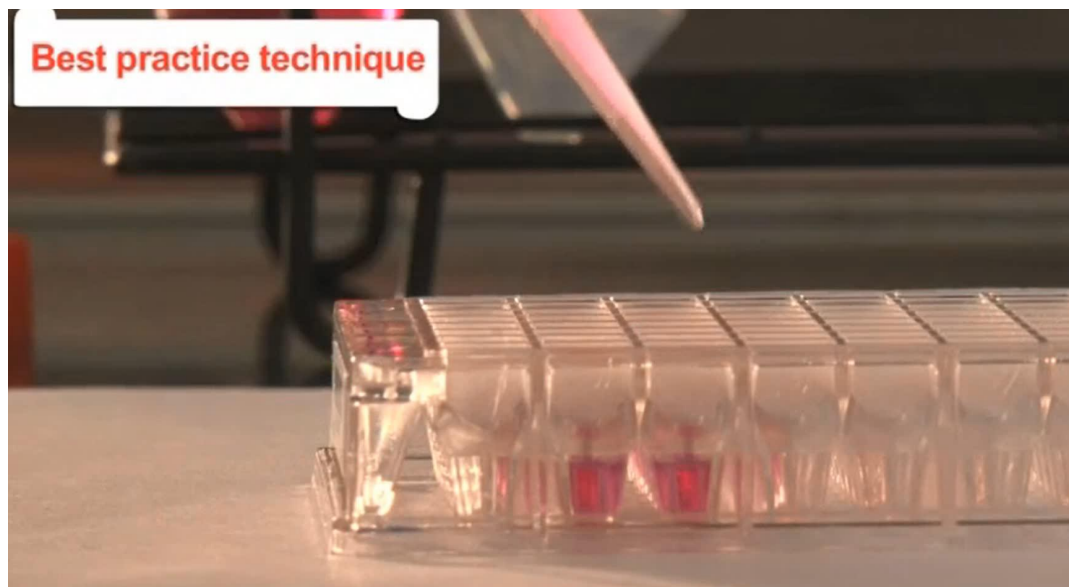
水化辅助板

水化板

3.

Hydrate entire assembly overnight at 37° C, no CO₂

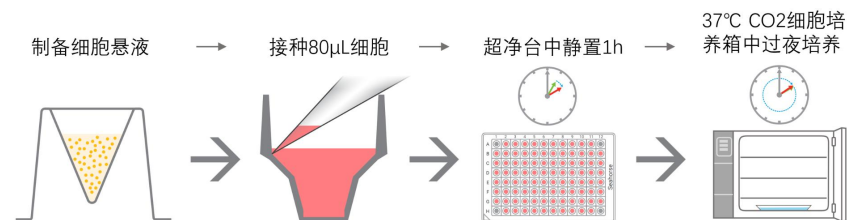
2、接种细胞



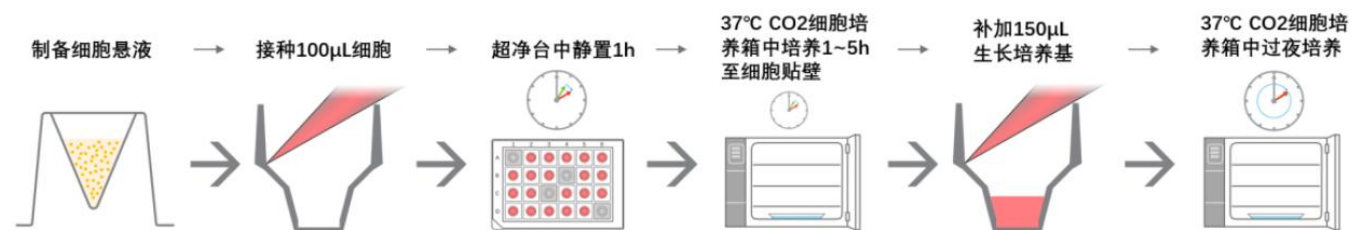
细胞接种的关键因素

- 一致性
- 单细胞悬浮液是最佳选择
- 考虑细胞附着
- 最小化边缘效应

XFe96、XF Pro、HS mini
Cell culture microplate



XFe24
Cell culture microplate





关注细胞形态及生长情况的变化

- 细胞代次
- 污染

在细胞完全汇合之前传代

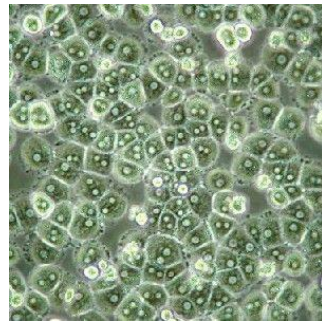
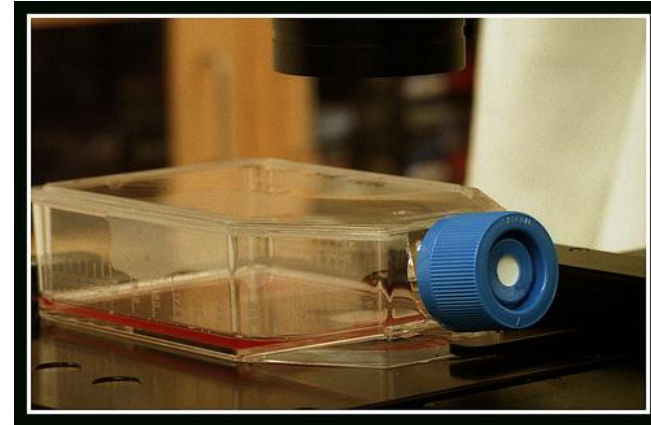
确保一致的细胞生长环境

- 血清批次
- 试剂的新鲜度及避光等保存条件

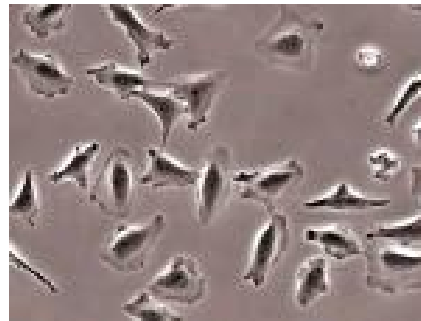
注意培养箱的状态

- 湿度
- CO₂

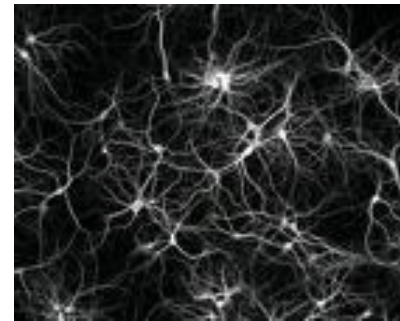
- 细胞接种密度及细胞汇合度
- 细胞培养时间
- 传代细胞或原代细胞
- 增殖细胞或分化细胞
- 细胞培养板表面处coating
- 细胞的特殊生理需求（如：原代皮层神经元）



adipocytes



fibroblast



neurons

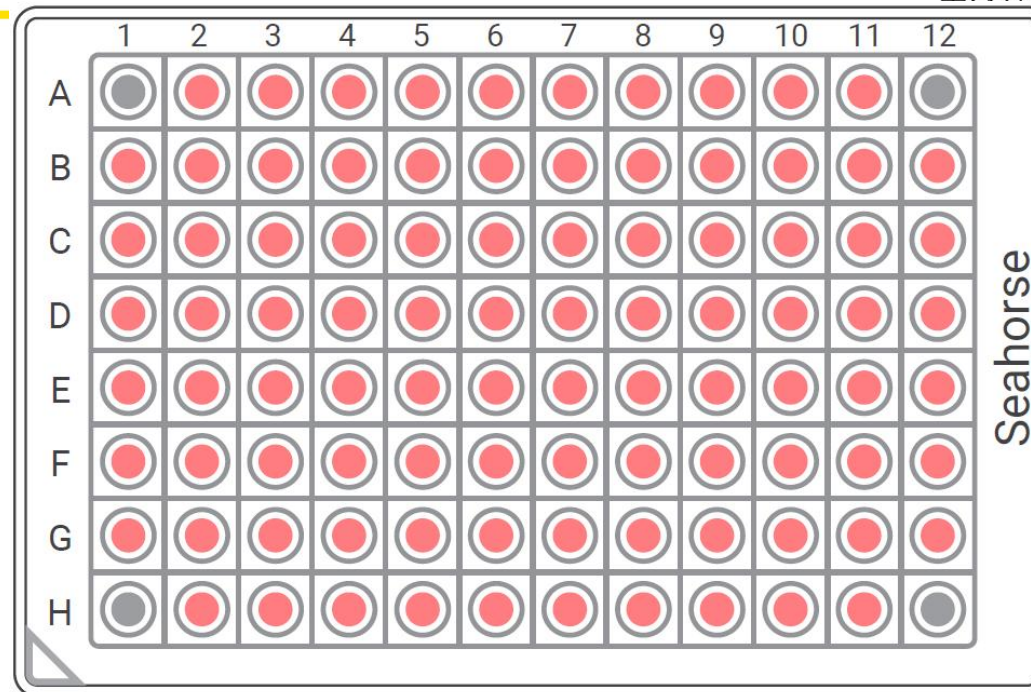
- Cell Reference Database
<https://www.agilent.com/cell-reference-database/>

与细胞类型相关的注意因素---细胞接种密度

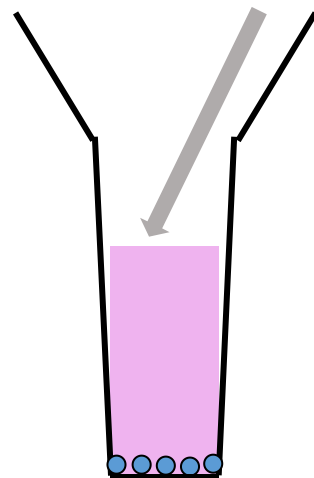
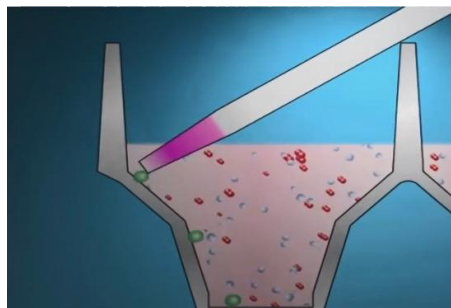
Seed 80 μL of cell suspension per well

Allow plate to rest at room temperature in the tissue culture hood for one hour

Allow cells to grow overnight in a cell culture incubator



80 μL of cells

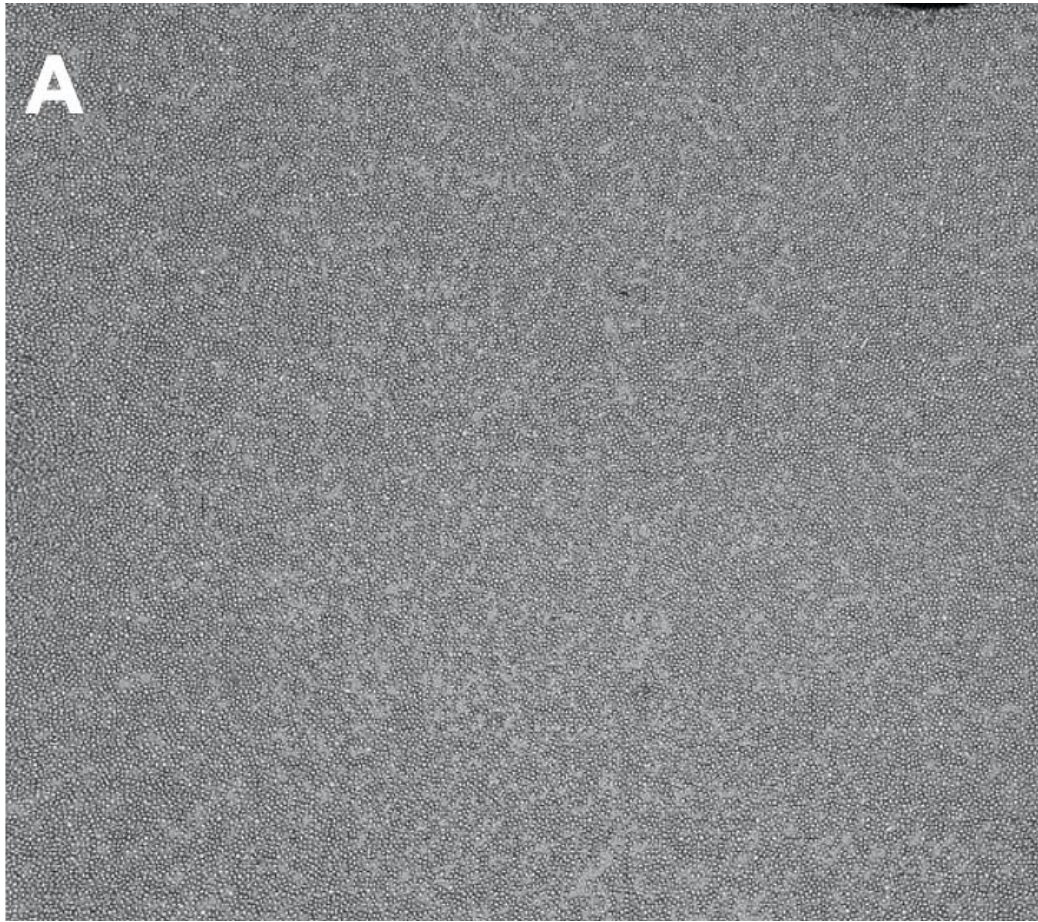


XF Instrument	Typical Cell Seeding Density Range*
XFe96, XF96, Pro, XFp	$5 \times 10^3 - 4 \times 10^4$ cells / well
XFe24	$1 \times 10^4 - 8 \times 10^4$ cells / well

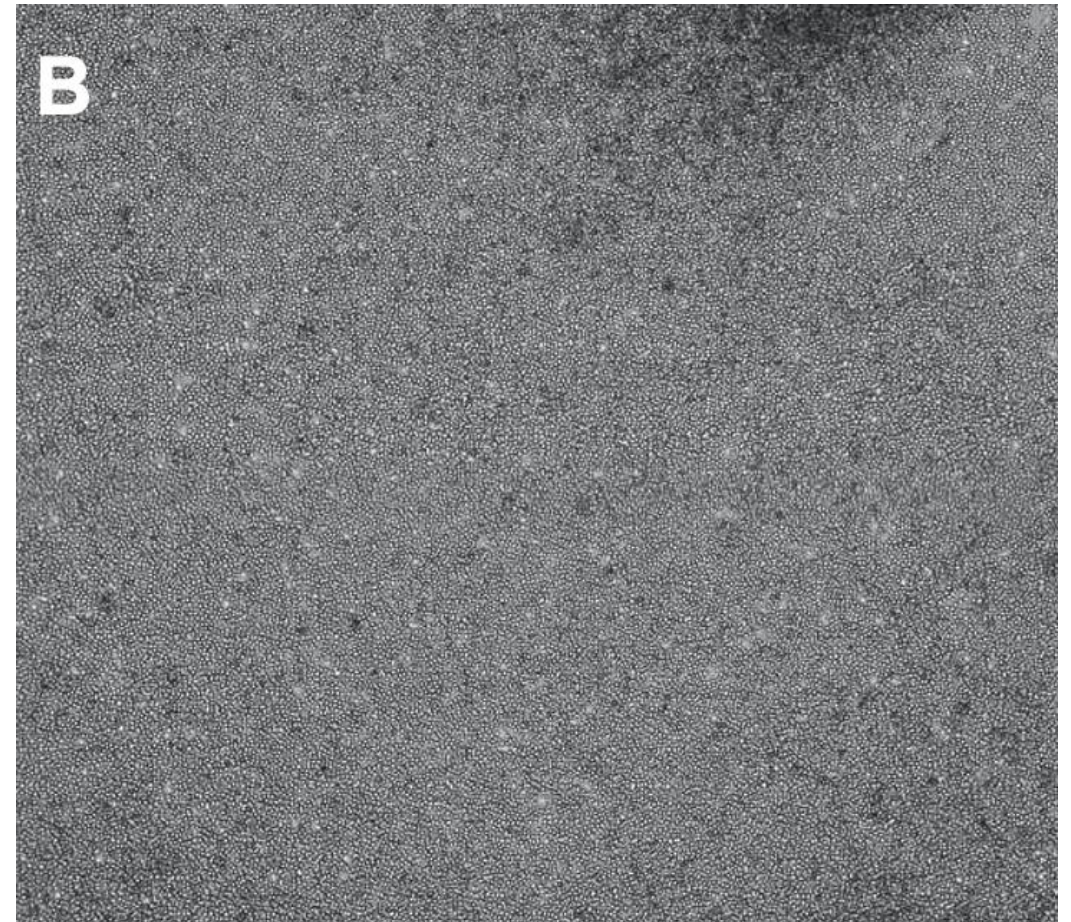
* These values are for adherent cell lines. Primary cells, immune type cells and suspension cells often require higher cell seeding densities.

最佳细胞接种密度——接种密度和培养时间决定回合度

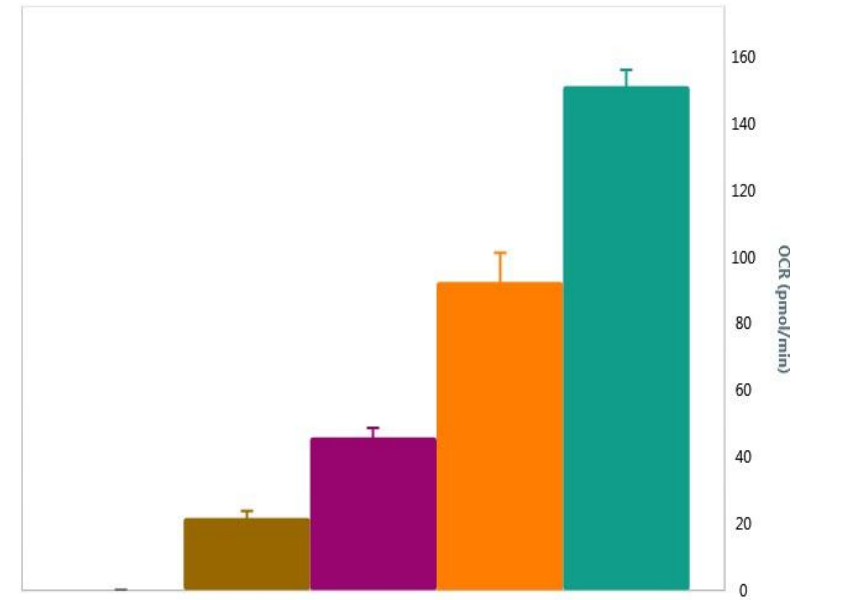
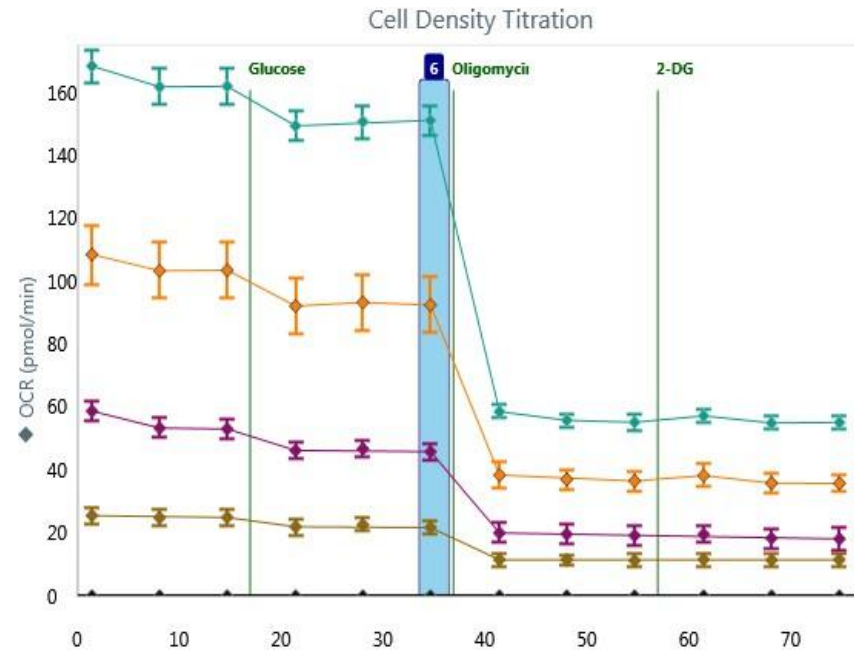
最佳细胞接种密度因细胞类型而异。通常，50-90%汇合度的细胞产生的代谢率会在仪器的理想/动态范围内。此外，最佳的细胞接种密度应在细胞孔内形成70-90%汇合度的单层细胞。



A: image shows low end of optimal cell density, ideal seeding density and distribution.



B: image shows high end of optimal seeding density, some cell clusters can be seen.



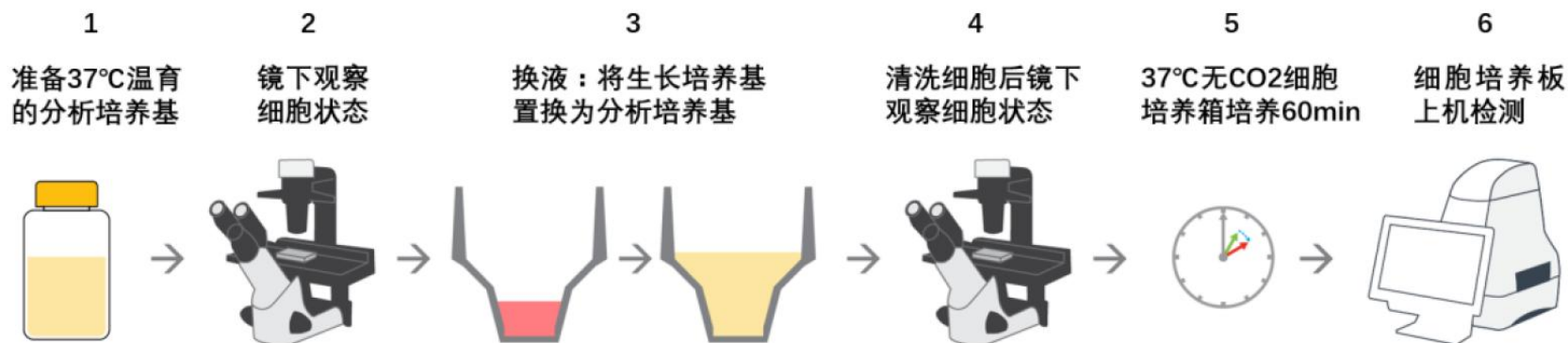
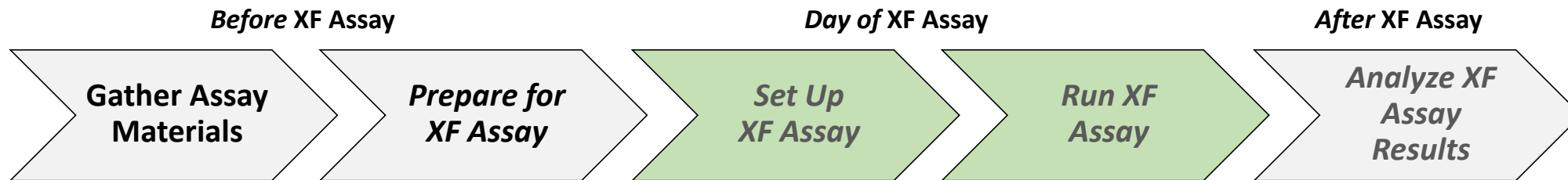
5k
 10k
 20k
 40k

Mean: 21.7 | SD: 2.0 Mean: 45.8 | SD: 2.7 Mean: 92.4 | SD: 8.8 Mean: 151.2 | SD: 4.8

- ❖ Good signal range— XFe96: ~ 20 – 160 pmol/min
- ❖ Nice, consistent monolayer – not necessarily confluent
- ❖ Small magnitude of error
- ❖ Linear range of the cell type

- 前期准备工作
- 实验前一天
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XF 实验基本流程——准备上机之清洗细胞



1. 务必镜下观察细胞确保满足清洗要求
2. 尽量将细胞生长培养基置换干净，至少清洗2次
3. 清洗流程遵循试剂盒说明书进行

1、配置XF 检测液：用于清洗细胞和药物配制

Seahorse XF DMEM, pH 7.4

或

Seahorse XF RPMI, pH 7.4

+

37°C

- Seahorse XF 葡萄糖
- Seahorse XF 丙酮酸钠
- Seahorse XF 谷氨酰胺

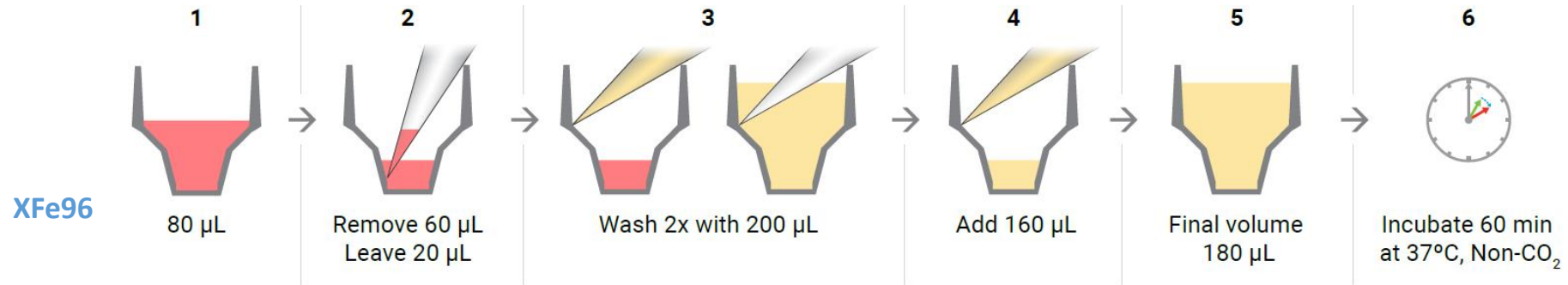
- ❑ Seahorse实验需要特定的培养基对代谢活性进行准确一致的功能性测量。
- ❑ 安捷伦提供即用的，预添加缓冲成分，预调pH 7.4的培养基，以及相应的底物添加剂，能够简化实验准备，提供一致的实验测量。
- ❑ 检测液中不可添加血清和碳酸氢钠
- ❑ 添加的底物种类和浓度取决于XF实验类型和应用需求

Catalog number	Description	Compatible with
103575-100	Seahorse XF DMEM Medium, pH 7.4, 500 mL	All XF assay kits. All Analyzers except for XF24 Analyzer ¹ .
103576-100	Seahorse XF RPMI Medium, pH 7.4, 500 mL	All XF assay kits. All Analyzer except for XF24 Analyzer ¹ .
103577-100	Seahorse XF 1.0 M Glucose Solution, 50 mL	All XF assay kits. All Analyzers.
103578-100	Seahorse XF 100 mM Pyruvate Solution, 50 mL	All XF assay kits. All Analyzers.
103579-100	Seahorse XF 200 mM Glutamine Solution, 50 mL	All XF assay kits. All Analyzers.

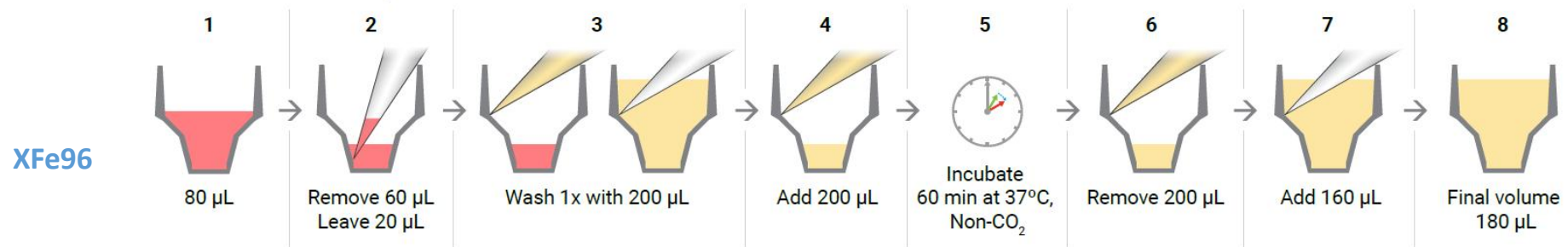


2、细胞换液

Standard XF Assay Workflow (except for XF Real-Time ATP Rate Assay & XF Glycolytic Rate Assay)



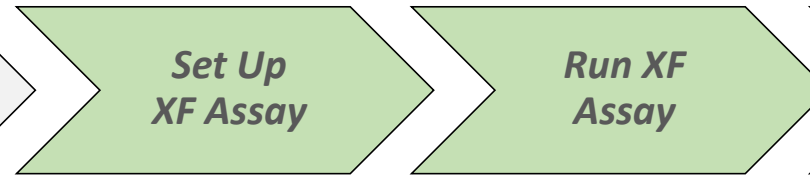
XF Real-Time ATP Rate Assay & XF Glycolytic Rate Assay Workflow



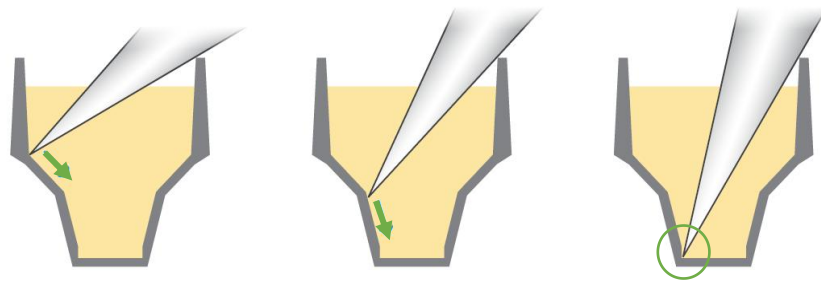
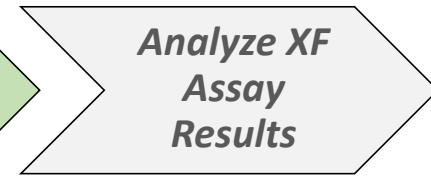
Before XF Assay



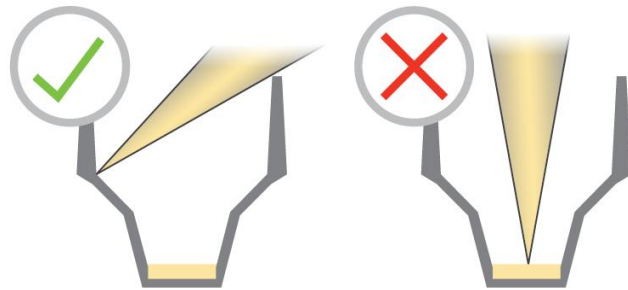
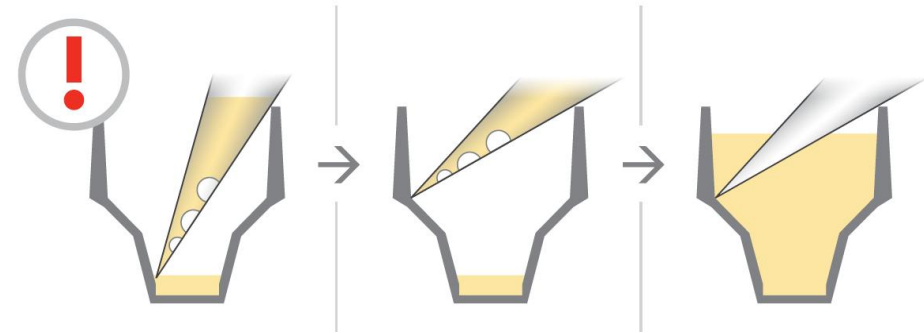
Day of XF Assay



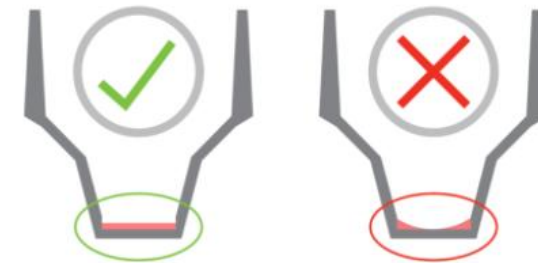
After XF Assay



Correct Technique



Aspirate and Dispense from the well side, not the center



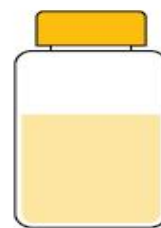
Ensure the cells are never exposed to air

3、配药

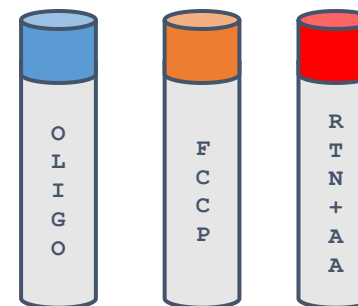
1.按照KIT
说明书先
配置试剂
母液



Kit

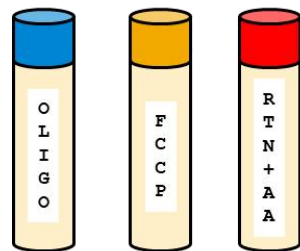


XFLuc Assay Medium

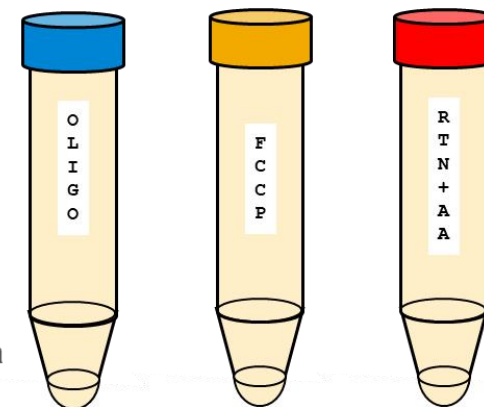
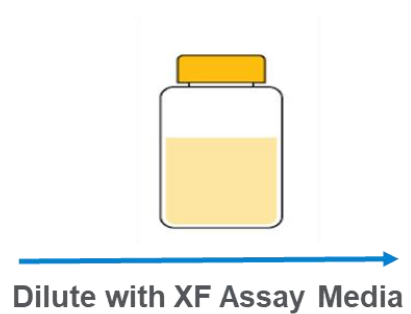


Stock Solutions

2.按需将
母液稀释
成工作液
(10x)



Stock Solutions

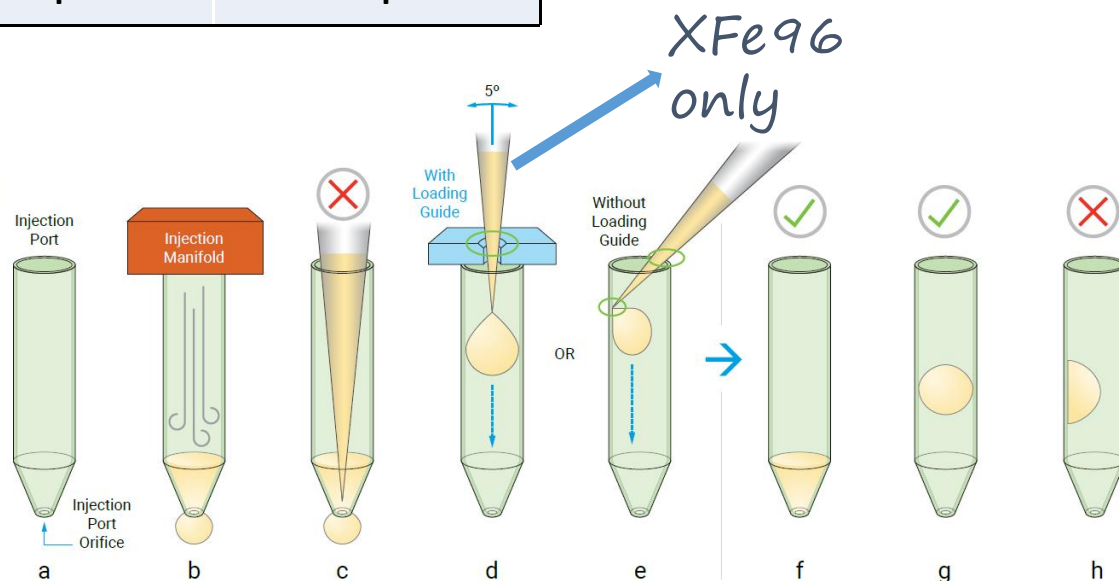
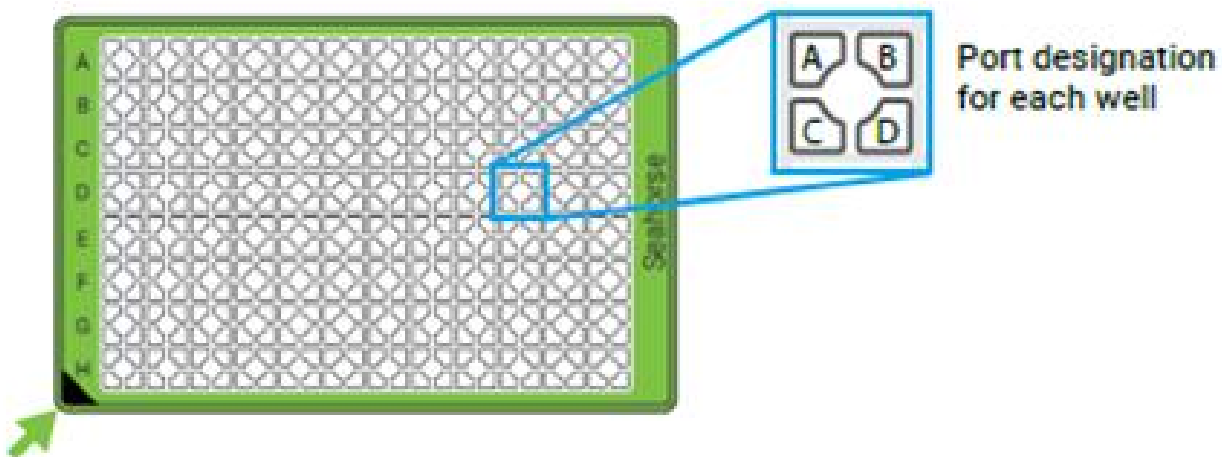


Injection Solutions

4、加药-药物加入探针板

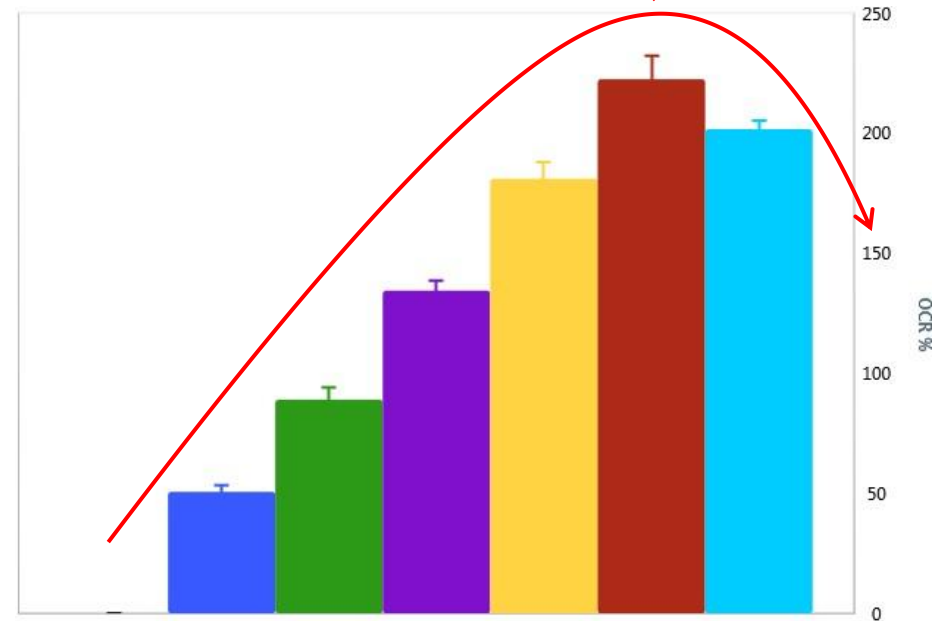
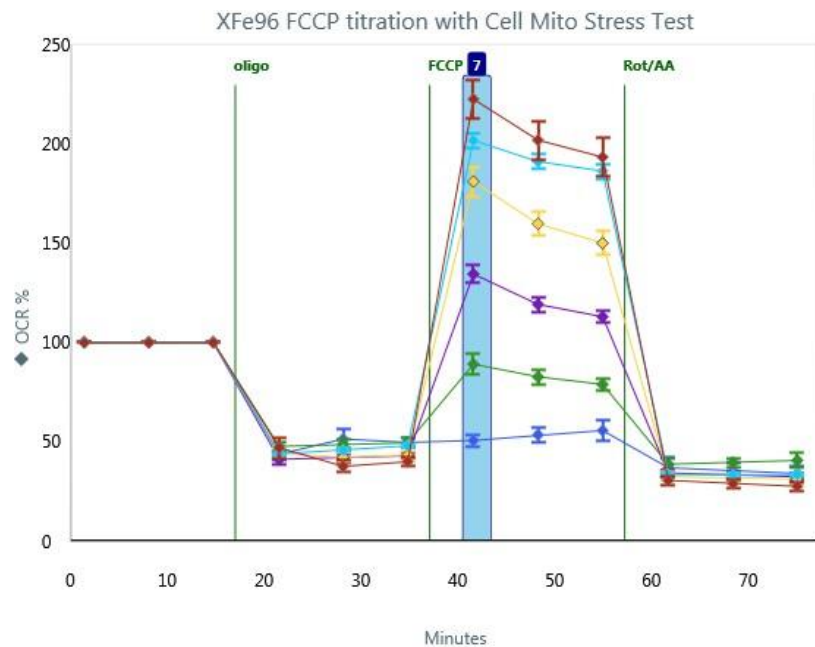
	Recommended Injection Solution Volumes		
	XFe96/96	XFe24/24	XFp
Initial well volume	180 μ L	500 μ L	180 μ L
Port A	20 μ L	56 μ L	20 μ L
Port B	22 μ L	62 μ L	22 μ L
Port C	25 μ L	69 μ L	25 μ L
Port D	28 μ L	75 μ L	28 μ L

- ❑ 加药孔里的药剂体积是基于10倍的药剂终浓度计算而来
- ❑ 加药孔的组合，加药的顺序以及需要用到的加药孔，取决于具体的试验设计



细胞线粒体压力测试中FCCP浓度优化（必需）

——OCR-FCCP关系务必满足类似的正态分布关系



0 FCCP Mean: 26.2 | SD: 1.1
0.125 FCCP Mean: 49.6 | SD: 4.3
0.25 Mean: 72.6 | SD: 4.5
0.5 Mean: 89.3 | SD: 3.9
1 Mean: 109.3 | SD: 8.7
2 Mean: 105.3 | SD: 6.3

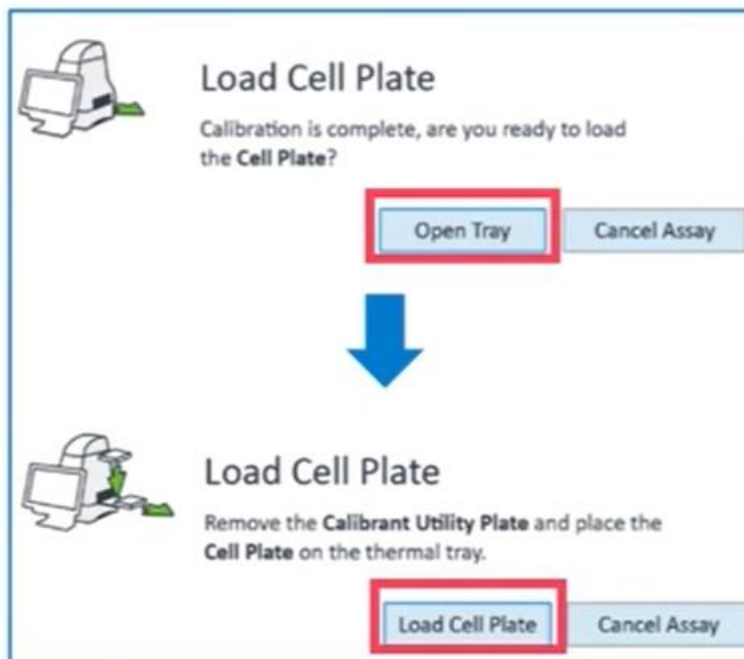
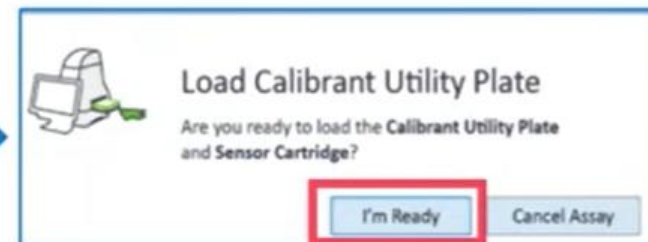
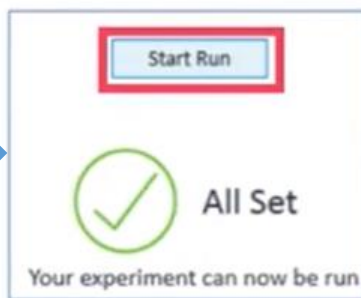
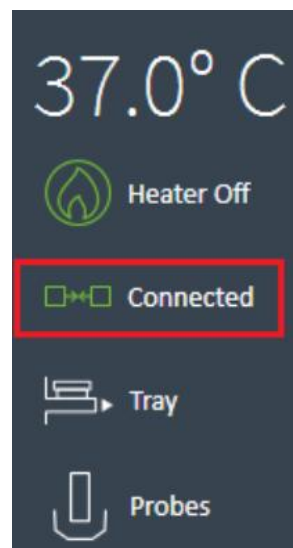
- ✓ Maximal stimulation of OCR is observed
- ✓ The lowest concentration of FCCP that produces maximal stimulation of OCR
- ✓ Ideally the OCR is stable over 3 measurement periods

5、上机检测

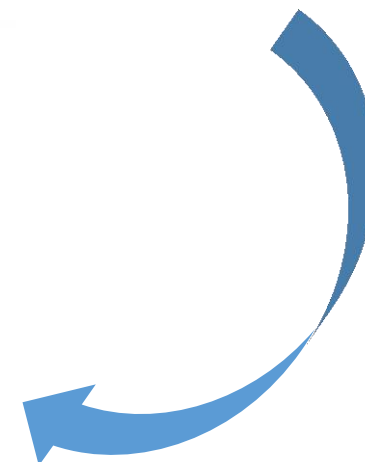


XFe96/XF PRO/XFe24

确保Seahorse XF仪器开机，温度设置并稳定在37° C
长期不用确保提前一周开机预热

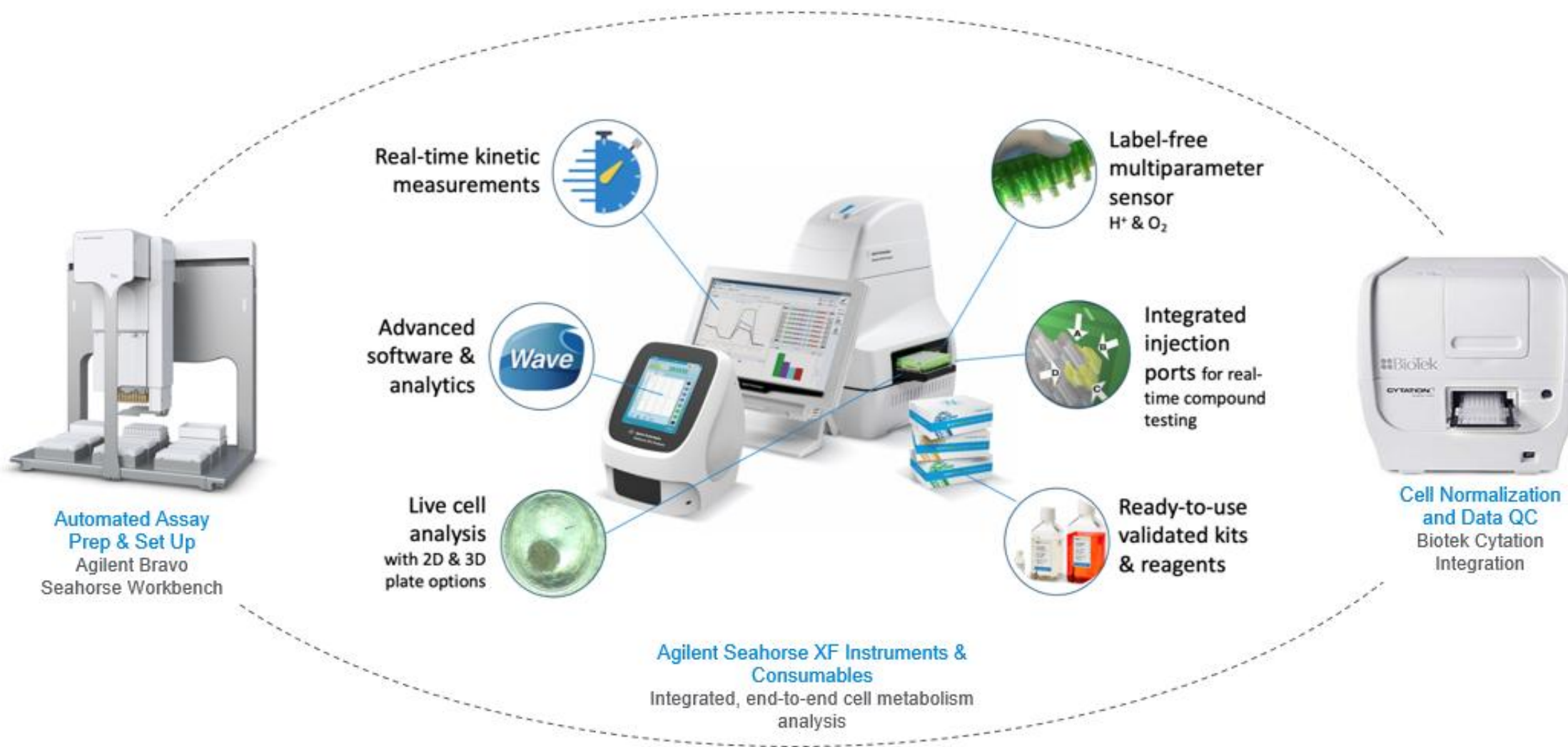


探针板
校准

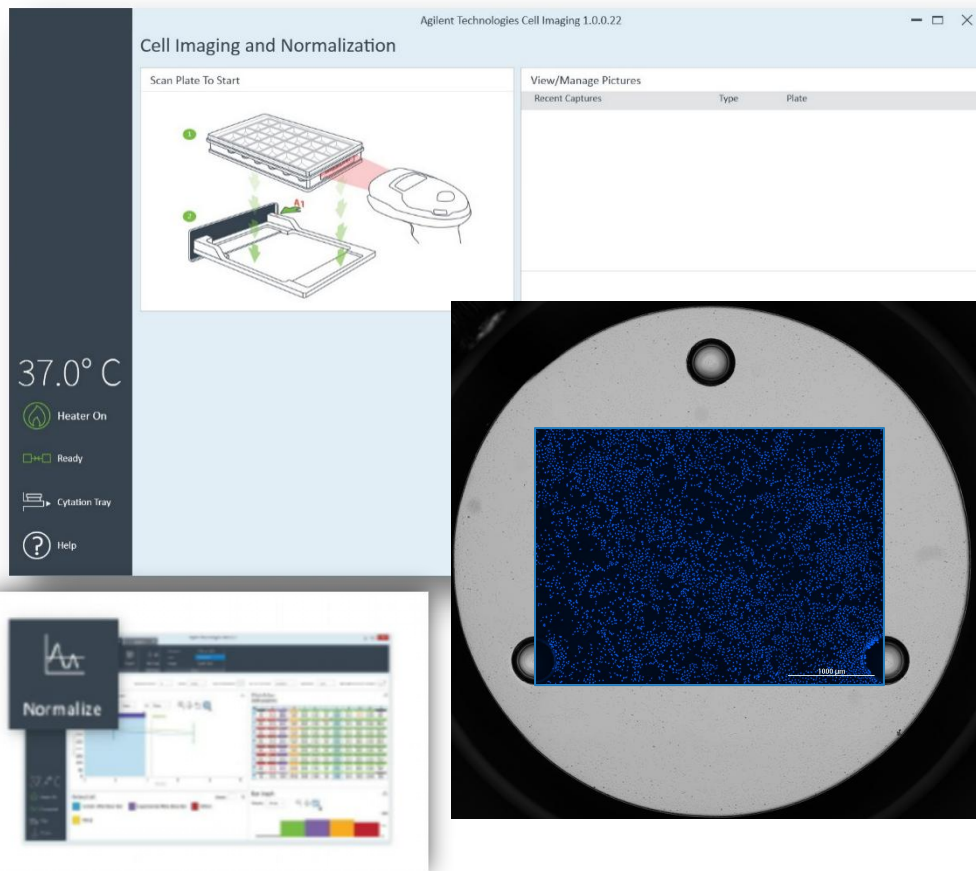


6、归一化测定

Agilent Seahorse XF - Integrated end-to-end platform

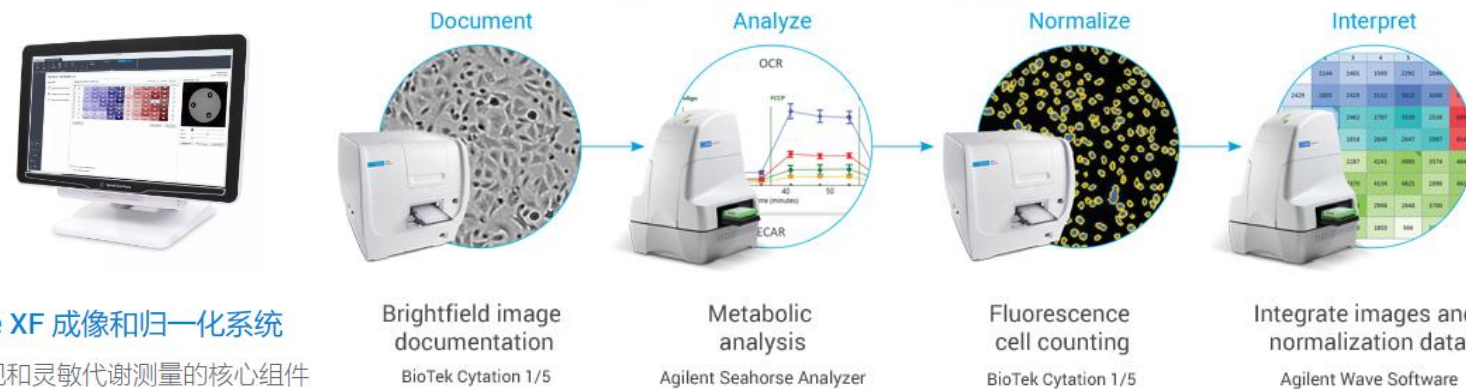
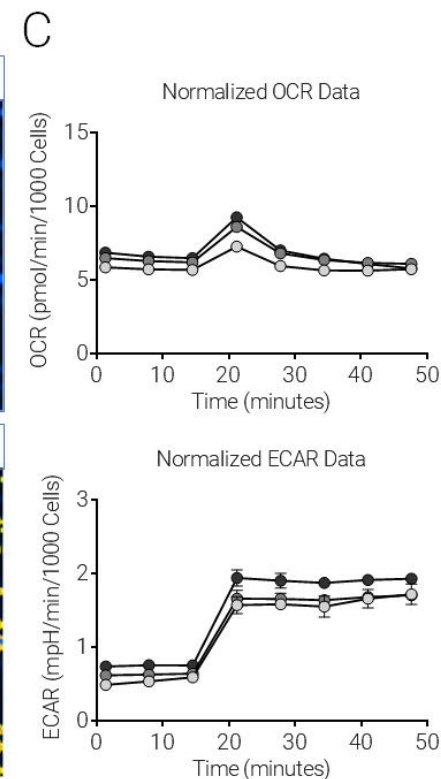
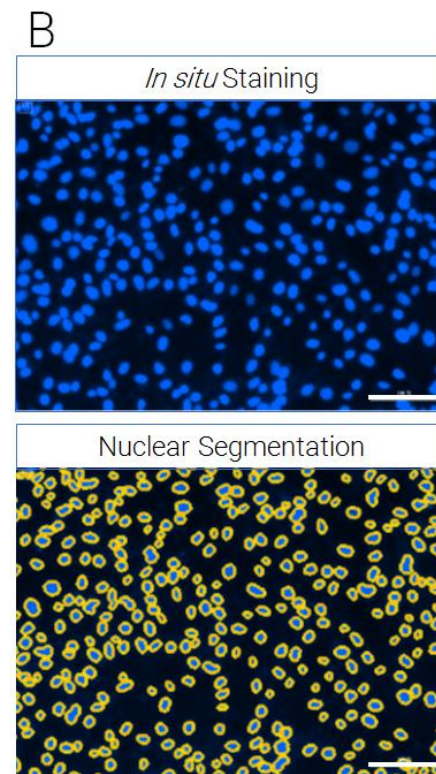
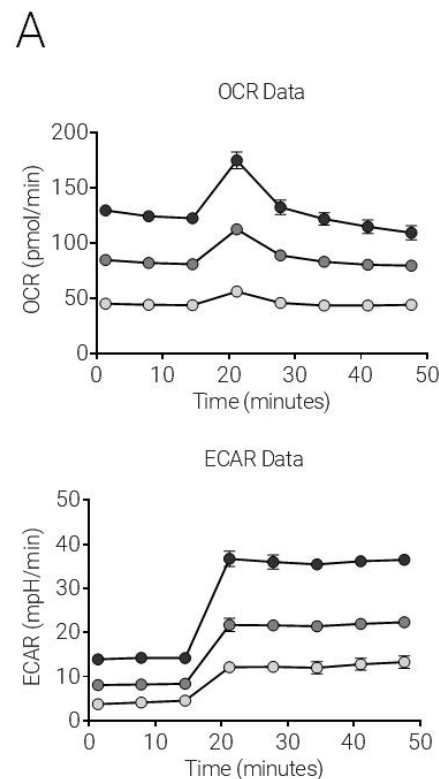


贴壁细胞均一化方案-与BioTek Cytation显微成像系统联用



检测前：明场下细胞汇合度分析和质量控制

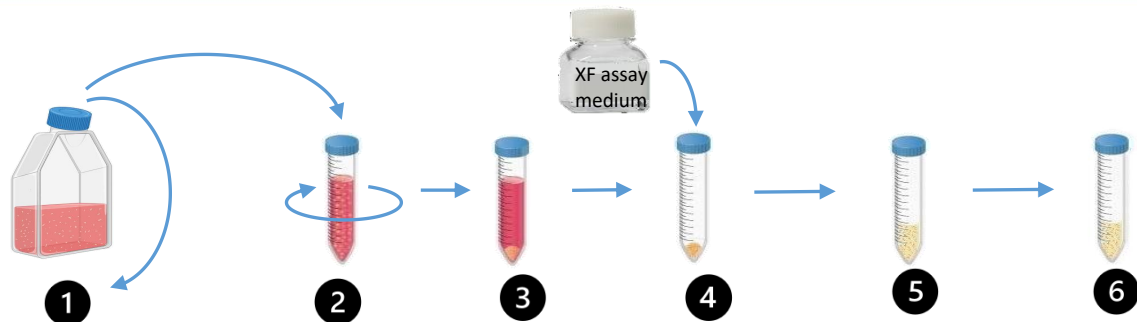
检测后：结合细胞活性标记染料，观察和排除可能影响 XF 数据质量的受损或不均匀的贴壁细胞



Seahorse XF 成像和归一化系统

执行可重现和灵敏代谢测量的核心组件

悬浮细胞均一化方案-与Novocyte系列流式细胞仪联用



1 **Count cells** to determine the amount of cell suspension needed (allow 50% extra to account for cell loss, and subsequent counting)

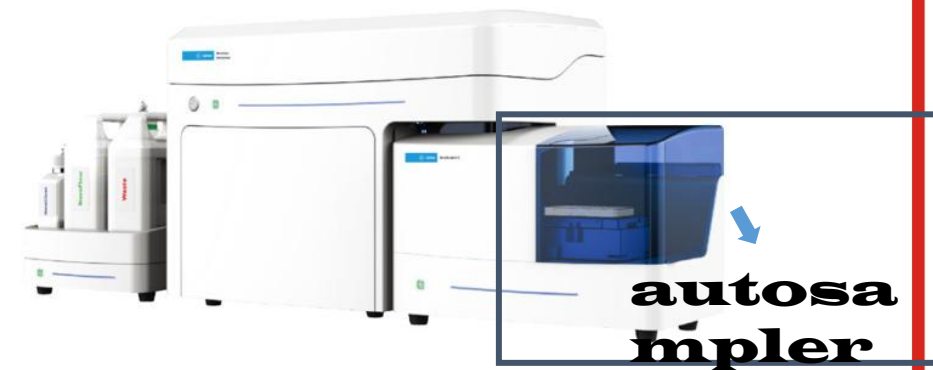
2 **Spin cells**

3 **Discard supernatant** using pipette

4 **Resuspend cell pellet** in 70% of the theoretical volume needed.

5 **Count total and viable cells.**

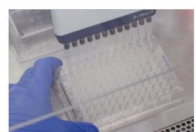
6 **Adjust volume** to the desired seeding density. (total cells/well)



Cells diluted in assay media based on 2nd count

3rd count

1st count (50 μ L suspension + 50 μ L 2X viability dye) 2nd count



7

Mix thoroughly and Seed cells (50 μ L/well) in pre-warmed PDL plates, keep remaining cells at 37°C



8

Spin plate



9

Add additional assay medium (pre-warmed)

10 Incubate plate in non-CO₂ incubator for 45 to 60 min at 37°C. Can be done in Cytation to take images as quality control

10



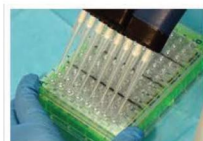
15 Run assay



16 Data analysis Normalization



11 Resuspend kit reagents in 4.0 mL of assay media



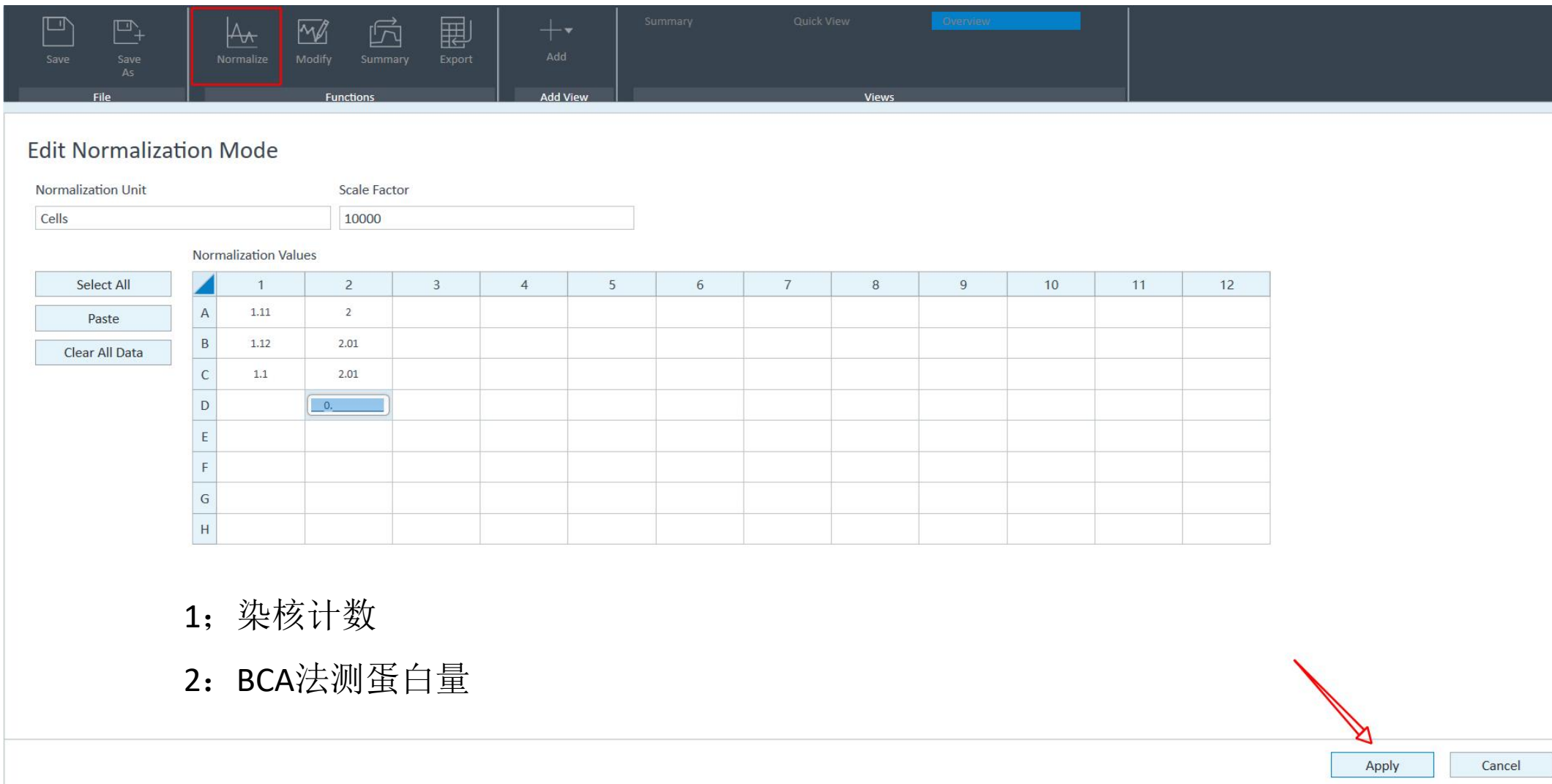
12 Load all injection ports with 25 μ L

14 3rd count

13 Calibrate cartridge

	Theoretical total cells/mL	Theoretical total cells/well	Actual total cells/well
Naive T-2.5	2.5X10 ⁶	125K	92,583
Naive T-3	3.0X10 ⁶	150K	127,281
Naive T-3.5	3.5X10 ⁶	175K	154,368
Naive T-4	4.0X10 ⁶	200K	182,876
Naive T-4.5	4.5X10 ⁶	225K	200,380
Naive T-5	5.0X10 ⁶	250K	225,501
Naive T-5.5	5.5X10 ⁶	275K	252,822

6、归一化测定



File: Save, Save As, **Normalize**, Modify, Summary, Export, Add

Views: Summary, Quick View, Overview

Edit Normalization Mode

Normalization Unit: Scale Factor:

Normalization Values

	1	2	3	4	5	6	7	8	9	10	11	12
A	1.11	2										
B	1.12	2.01										
C	1.1	2.01										
D		<input type="text" value="0."/>										
E												
F												
G												
H												

Buttons: Select All, Paste, Clear All Data

Buttons: Apply, Cancel

1: 染核计数
2: BCA法测蛋白量

Wave 2.6.3

— □ ×



Templates

Results

Catalog

Options

Help

Exit

Templates

Select an Instrument

XFe96



Sort By: Name Date



Search



Blank



Dependency-
XF Mito Fuel...



Flexibility-XF
Mito Fuel Fle...



XF Buffer
Factor Assay



XF Cell Energy
Phenotype Test



XF Cell Mito
Stress Test



XF Cell Mito
Stress Test (A...



XF CO2
Contribution...



XF Glycolysis
Stress Test



XF Glycolysis
Stress Test (A...



XF Glycolytic
Rate Assay



XF Glycolytic
Rate Assay (I...

模板名称无
(Acute Injection或
Induced Assay)

探针板加药孔内只
加kit里的药物

模板名称包含
(Acute Injection或
Induced Assay)

探针板加药孔内除
kit里的药物，还加
入用户诱导细胞的
药物，且作为第一
个注射药物加入
port A

若用户仪器软件中
无目的模板，则可
导入，模板可从官
网下载或联系FAS

可将桌面版Wave
中模板导出至优盘
并导入仪器软件中

Template Details



Open File

XF Cell Mito Stress Test

Modified
5/9/2017

Author
Agilent Technologies, Inc.

Description

Project Name

Project Number

Investigator

Import

Duplicate

Export

Delete

37.0° C



Heater Off



Connected



Tray



Probes

Wave 2.6.3

HOME XF Cell Mito Stress Test.asyt

Save Save As Group Definitions Plate Map Protocol Run Assay

File Assay Navigation

Definitions

Generate Groups

- Injection Strategies (1) Add
 - Mito Stress Test
- Pretreatments (2) Add
 - Control
 - Experimental
- Assay Media (1) Add
 - Mito Stress Test Assay Medium
- Cell Type (1) Add
 - Cells (see Cell line Reference Database for guid...

Injection Strategies

About Injection Strategies

An injection strategy describes the contents of each port injection in the assay. If the entire plate is using the same Injection Strategy, only one Injection Strategy is needed. Click the 'Add' button to add an Injection Strategy, then select each port (A, B, C, or D) and click 'Add Compound' to describe the contents of each injection for the selected Injection Strategy. Repeat to add additional Injection Strategies to the assay design.

Click the 'Add' button to add an injection condition.

Groups

Add Group Collapse / Expand All Down Up

- Background
- Control
- Experimental

通过完成设定左侧Definitions点击Generate Groups，生成右侧Groups指定数量的分组

Wave 2.6.3

HOME | XF Cell Mito Stress Test.asyt

Save | Save As | Group Definitions | **Plate Map** | Protocol | Run Assay

File | Assay Navigation

Groups

Add Group | Collapse / Expand All | Down | Up

- Background
- Control
- Experimental

Plate Map

Clear Plate | Distribute Groups

	1	2	3	4	5	6	7	8	9	10	11	12
A	●	○	○	○	○	○	○	○	○	○	○	●
B	○	○	○	○	○	○	○	○	○	○	○	○
C	○	○	○	○	○	○	○	○	○	○	○	○
D	○	○	○	○	○	○	○	○	○	○	○	○
E	○	○	○	○	○	○	○	○	○	○	○	○
F	○	○	○	○	○	○	○	○	○	○	○	○
G	○	○	○	○	○	○	○	○	○	○	○	○
H	●	○	○	○	○	○	○	○	○	○	○	●

Select a group from the left, then click or drag with the mouse to apply that group to the plate map.

Wave 2.6.3

HOME XF Cell Mito Stress Test.asyt

Save Save As Group Definitions Plate Map **Protocol** Run Assay

File Assay Navigation

Protocol

Total Time: 01:24:00

Measure Injection Custom Remove Move Left Move Right

Initialization

Calibrate

The XF always performs calibration to make sure measurements are accurate.

Equilibrate

Equilibration occurs after Calibration and is recommended (which is why it's checked).

Baseline

Duration: 00:18:00

3 Measurement Cycles

▲ Edit Measurement Details

Cycles	Mix	Wait	Measure
▲	▲	▲	▲
3	03:00	00:00	03:00
▼	▼	▼	▼


▶ Group Summary

Oligomycin

Duration: 00:18:00

3 Measurement Cycles

Select Ports



Measure After Injection

▲ Edit Measurement Details

Cycles	Mix	Wait	Measure
▲	▲	▲	▲
3	03:00	00:00	03:00
▼	▼	▼	▼


▶ Group Summary

FCCP

Duration: 00:18:00

3 Measurement Cycles

Select Ports



Measure After Injection

▲ Edit Measurement Details

Cycles	Mix	Wait	Measure
▲	▲	▲	▲
3	03:00	00:00	03:00
▼	▼	▼	▼


▶ Group Summary

Rotenone + Antimycin A

Duration: 00:18:00

3 Measurement Cycles

Select Ports



Measure After Injection

▲ Edit Measurement Details

Cycles	Mix	Wait	Measure
▲	▲	▲	▲
3	03:00	00:00	03:00
▼	▼	▼	▼

▶ Group Summary

Wave 2.6.3

HOME | XF Cell Mito Stress Test.asyt

Save | Save As | Group Definitions | Plate Map | Protocol | Run Assay

File | Assay Navigation


Summary | Protocol | Group | Port A | Port B | Port C | Port D

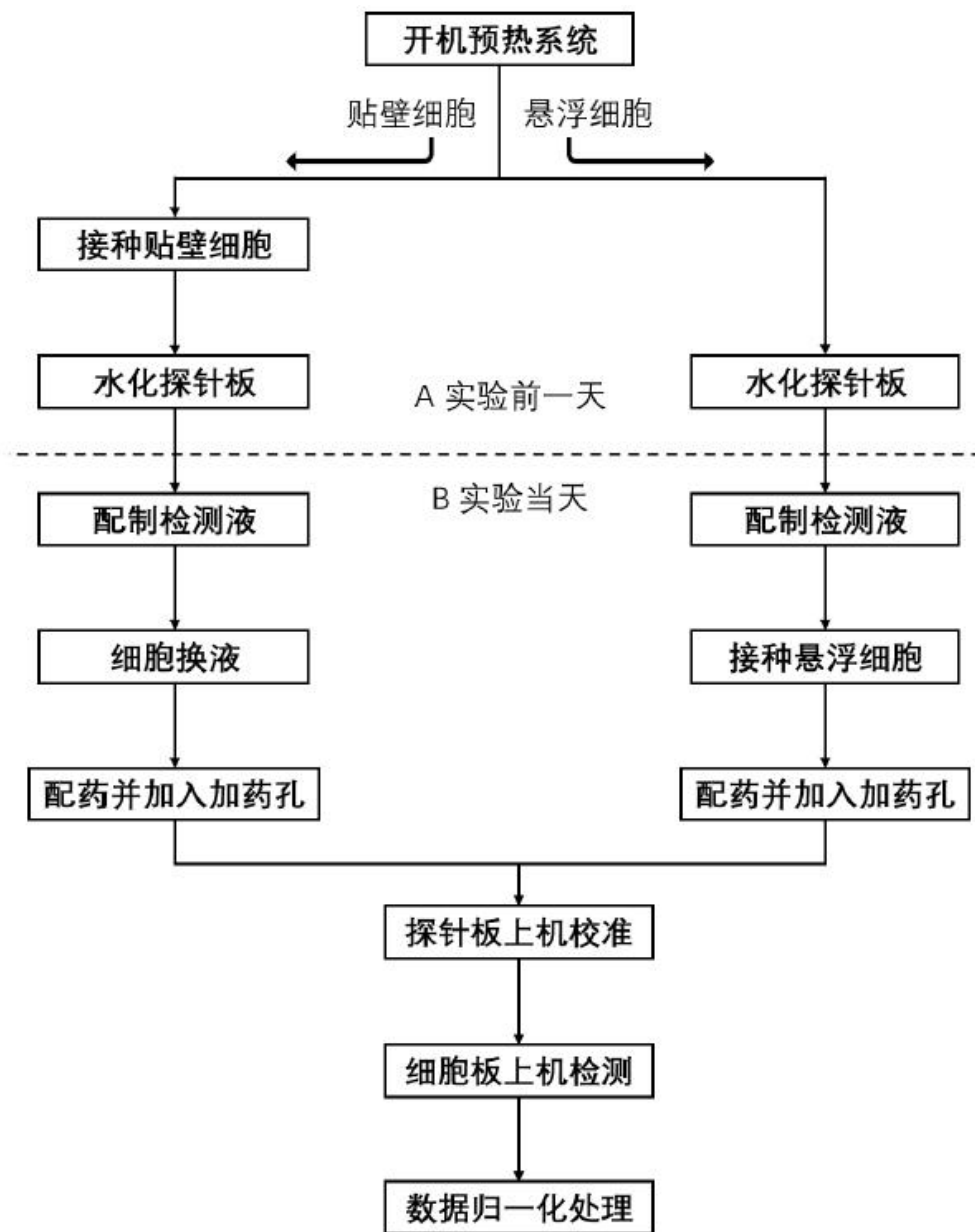
Assay Summary

Print Summary

Project Information	Plate Information	Notes
Project Name <input type="text"/>	Well Volume (μ l) <input type="text" value="180"/>	<input type="text"/>
Principal Investigator <input type="text"/>	Plated By <input type="text"/>	
Project Number <input type="text"/>	Plated On Select Date <input type="text" value="15"/>	
Show Advanced Options <input type="checkbox"/>		

Start Run

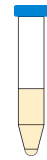
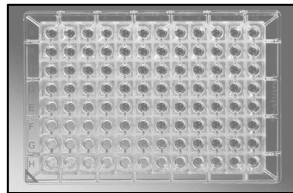
 **All Set**
Your experiment can now be run



非贴壁细胞固定在XFe96微孔板上

Prepare XF Tissue Culture Plate with appropriate plate coating (e.g. Poly-D-Lysine, Cell-Tak)

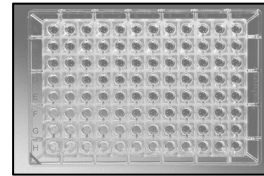
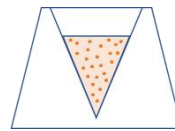
XF Tissue Culture Plate	Volume Plate Coating
XF96	25 μL
XF24	50 μL
XFp	25 μL



Collect cells and Prepare Cell Suspension

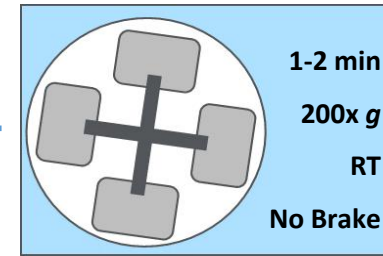
Seed Cells in XF Assay Media

XF Tissue Culture Plate	Volume Cell Suspension
XF96	50 μL
XF24	100 μL
XFp	50 μL

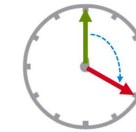


✓ Confirm Seeding Quality

Centrifuge XF plate

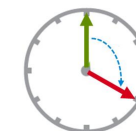


Incubate 20 min
37° C, no CO₂.



XF Tissue Culture Plate	Volume XF Media to Add
XF96	130 μL
XF24	400 μL
XFp	130 μL

Incubate 20 min
37° C, no CO₂.

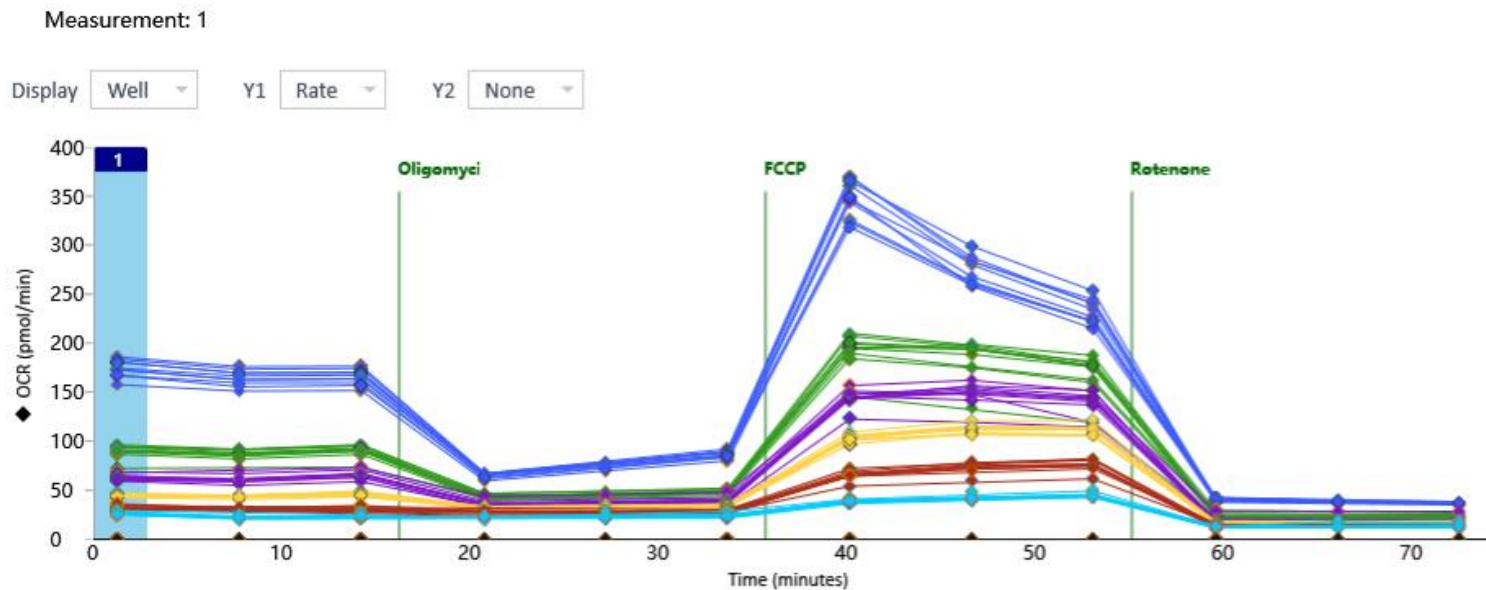


Immobilization of Non-Adherent Cells with Cell-Tak for Assay on the Agilent Seahorse XFe/XF24 Analyzer



- 前期准备工作
- 实验前一天
- 实验当天
- **数据分析**

1、预览结果



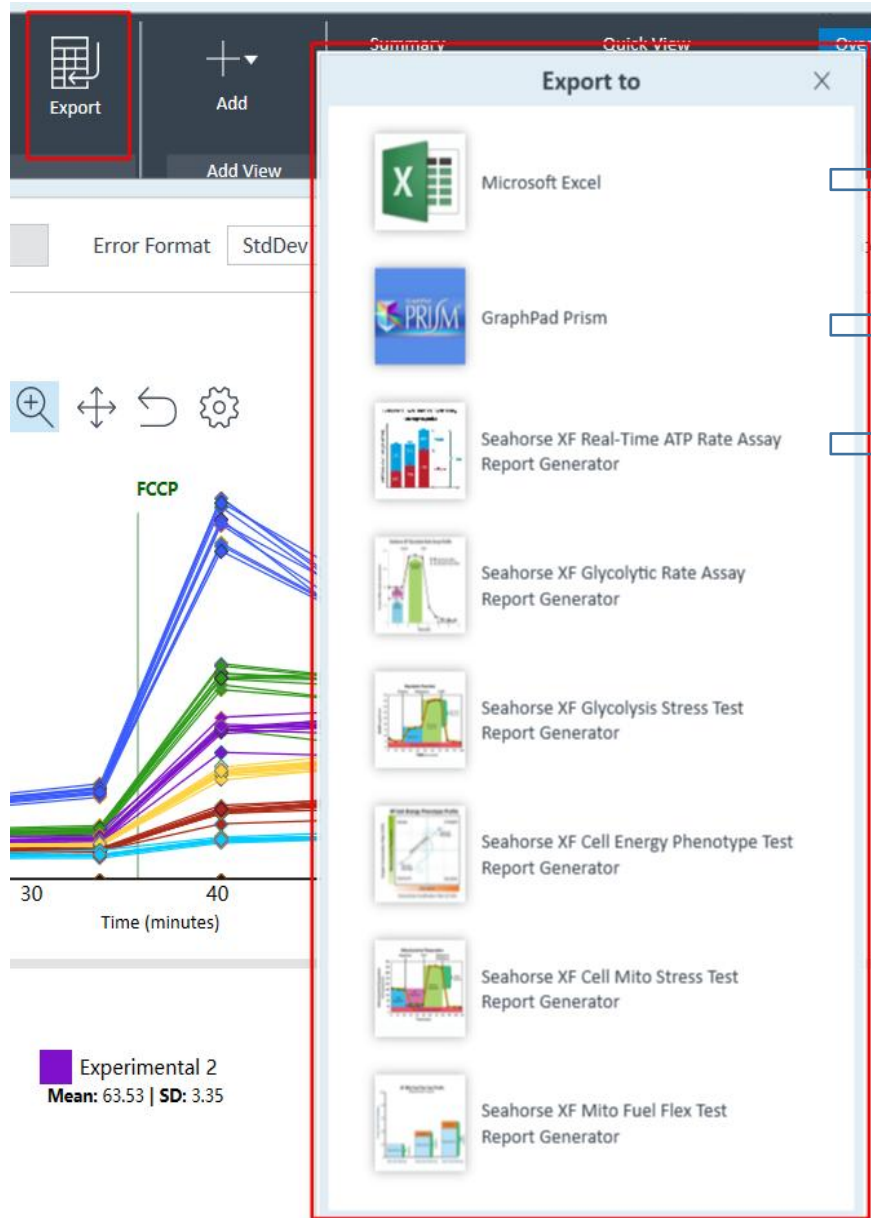
- 1: 4个背景孔结果是否正常
- 2: 基础OCR/ECAR是否合适
 - 细胞密度问题
- 3: 有负值
 - 有气泡
- 4: PH不正常
 - 检测液是否过期/配置错误
- 5: 查看曲线趋势是否正常
 - 药物是否都有打进去
 - 药物是否提前漏下去了

Instrument	Basal OCR range (pmol/min)
Agilent Seahorse XFe24, XF24	50-400
Agilent Seahorse XFe96, XF96, XFp	20-160

When deciding between two seeding densities that have basal OCR values within the indicated ranges, use the following basal extracellular acidification rate (ECAR) ranges at the same measurement points selected for the OCR values:

Instrument	Basal ECAR range (mpH/min)
Agilent Seahorse XFe24, XF24	20-120
Agilent Seahorse XFe96, XF96, XFp	10-90

2、导出数据/图表

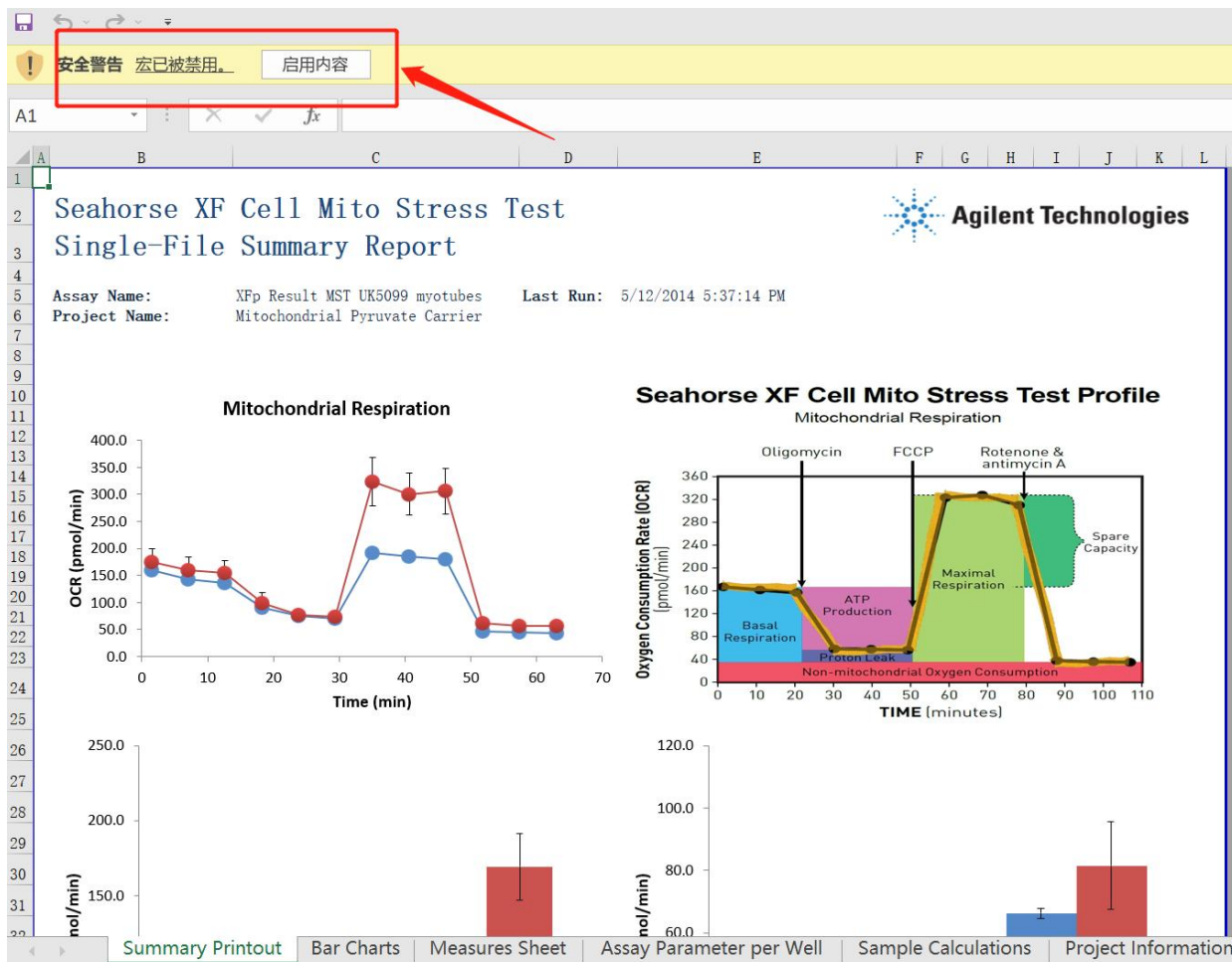


原始数据

作图

数据分析报告

3、分析数据/图表



Display Options

Injection Selection: Ignore Last

Select groups to display:

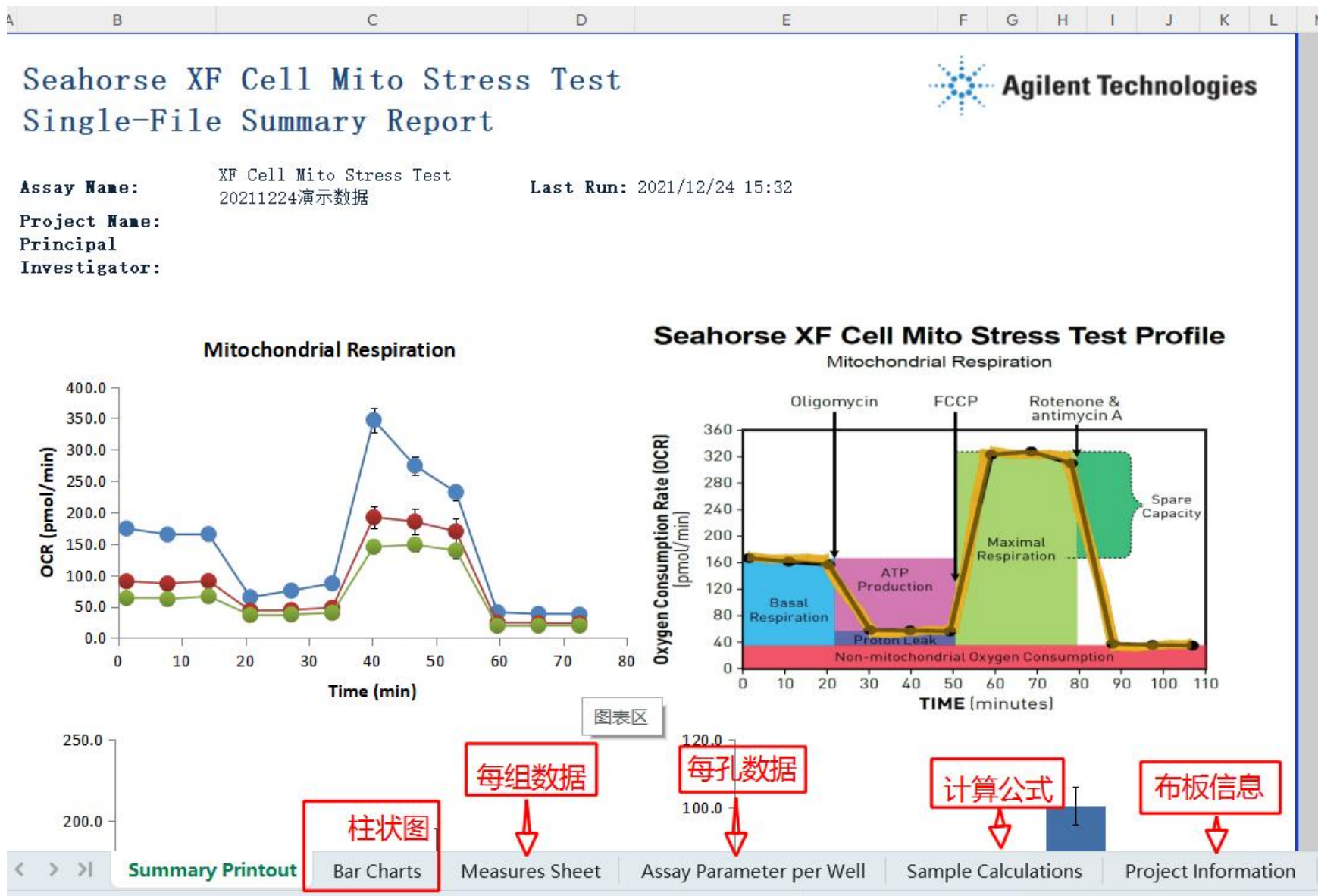
- Control
- Experimental 1
- Experimental 2
- Experimental 3
- Experimental 4
- Experimental 5

Buttons: Move Up, Move Down, Update Summary, Cancel, Advanced >>>

Select All

Error Bar Type: Standard Error Standard Deviation

3、分析数据/图表



携手黄河 实验无忧

梁经理



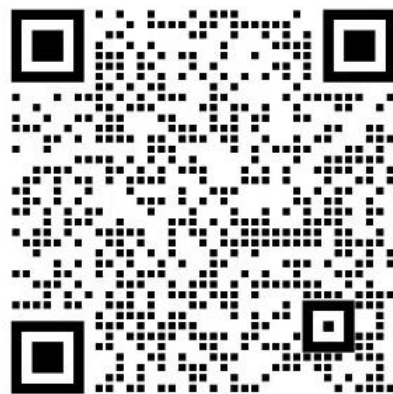
孖霖
广东 广州



扫一扫上面的二维码图案，加我为朋友。

可咨询耗材问题

技术服务群



可咨询技术问题

携手黄河 实验无忧

谢谢聆听