ACEA NovoCyte流式细胞仪使用和管理规则

ACEA NovoCyte User’s Guide

**一、操作流程Workflow overview**



**二、开机程序 Boot program**

1. 开机前检查Check before Start-up

* 检查NovoCyte主机和工作站、主机和储液台的电源线及其他线路连接良好。Check whether the power cords and other lines of NovoCyte instrument, fluidics station, and NovoCyte workstation are well connected or not.
1. 添加配套液体，排空废液（确保仪器处于“就绪”或关机状态）Add the supporting liquid and drain the waste liquid (make sure the instrument is in "Ready" or “Shutdown” state)
* 观察鞘液瓶、清洗液瓶、冲洗液瓶中液面情况，若液体量不足，请及时补充。Observe the liquid level in the sheath fluid tank, NovoClean tank and NovoRinse tank. If the amount of liquid is insufficient, please add it in time.
* 旋开废液桶上盖，将废液倒入废液回收容器，加入200ml次氯酸原液。Unscrew the lid of the waste tank, and empty waste liquid. If necessary, add 200ml of hypochlorous acid.
1. 打开仪器总电源Turn on the main power
* 请按NovoCyte流式细胞仪面板上的电源按钮，此时电源按钮显示为绿色，表示仪器进入开机初始化流程。Press the power button on the NovoCyte flow cytometer panel, and then the button is displayed in green, indicating that the instrument enters the initialization process.
1. 开启电脑，运行桌面“NovoExpress”软件Turn on the computer, and click “NovoExpress”on the desktop
* 软件界面左下角状态栏显示绿色图标“”，表示仪器连接正常。A green icon "" is displayed in the status bar in the lower left corner of the software interface, indicating that the instrument is connected normally.
* 状态栏显示就绪状态“” ，表明仪器已完成初始化。The status bar shows the “Ready” status“” , indicating that the instrument has completed initialization.

**三、关机程序Shutdown program**

1. 退出“NovoExpress”软件，执行电脑关机程序。Exit the "NovoExpress" software and execute the computer shutdown procedure.
2. 按下NovoCyte流式细胞仪前面板上的电源按钮，主机自动关闭。Press the power button on the front panel of the NovoCyte flow cytometer and the host will automatically shut down.

**四、系统维护System Maintenance**

1. 定期维护Scheduled Maintenance

|  |  |
| --- | --- |
| Maintenance | Recommended Maintenance Frequency |
| Daily Start-up | Daily. Automatic system cleaning during startup.  |
| Daily Shutdown | Daily. Automatic system cleaning and decontamination during shutdown.  |
| Add instrument reagents (ACEA NovoFlow sheath fluid, ACEA NovoRinse solution, and ACEA NovoClean solution) | As needed. Check the instrument reagent volume in the containers before each experiment and add more reagents when necessary. |
| Empty Waste | As needed. Check waste volume before each experiment and empty waste container.  |
| Preventive Maintenance► Clean the sample injection probe (SIP)► Clean the SIP cleaning apparatus► Conduct Extensive Rinse ► Unclog the flow cell► Sterilize instrument reagent containers | Every month. |
| Replace Fluidic System Consumables | Every two months or when prompted by NovoExpress Software. |

1. 不定期维护Unscheduled Maintenance

|  |  |
| --- | --- |
| Unscheduled Maintenance | When to Perform |
| Remove Bubbles  | The CV of the data is larger than normal; QC test failed |
| Unclog the Sample Injection Probe (SIP) | Much less amount of events are detected than expected; Perform a large amount of tests in one day |
| Clean the External Surface of the Instrument | Keep the external surface of the instrument clean |
| Clean the Sample Injection Probe (SIP) | The sample injection probe’s outer surface is dirty |
| Decontamination | When suspecting bacteria contamination in the system |
| Clean Fluidic System before LongTerm Storage | No plan to run the NovoCyte cytometer for more than two weeks |
| Purge Fluidic System before Shipment | The NovoCyte flow cytometer needs to be shipped |
| Calibrate the Fluidics Station | Abnormal warning about the liquid level in the reagent containers is observed |
| Clean the Optical Filters and Mirrors  | The optical filters and mirrors get dirty |

**五、注意事项Notifications**

1. 请务必做好仪器清洗工作，点击仪器菜单下方的清洗，按提示执行。建议在“NovoExpress”软件界面选择“采样后冲洗”。Please remember to clean the instrument after using, click “Instrument”→“Clean” in the menu bar, or tick the bar “Rinse after sampling”.

2. 请当天最后一位使用该仪器的师生检测完毕后，检查储液台各容器状态，确保一切正常。轻按仪器前面板电源键关机，仪器自动进入关机程序，此时需等待约15min，请勿离开。Last user of the day is supposed to showdown the system, and make sure the instrument is fine before leaving.

3. 仪器预约：参见《浙江大学爱丁堡大学联合学院公共技术平台流式细胞分析服务用户需知》有关内容。If you want to know how to appoint the instrument, please refer to the document *Guidelines for Using the Flow Cytometer of ZJE-UoE Core Facility*.

**六、****仪器参数配置Instrument configuration**

ACEA NovoCyte流式细胞仪由主机、储液台和工作站三部分组成，配备3个激光（405nm、488nm、640nm）和13个荧光检测通道，可检测颗粒粒径范围为0.2～50μm，检测灵敏度：FITC<75MESF，PE<50MESF。The ACEA NovoCyte flow cytometer includes the NovoCyte instrument, fluidics station, and NovoCyte workstation. It is equipped with 3 lasers(405, 488 and 640 nm) and can perform 15-parameter(13 colors plus forward and side scatter) analysis of cells or particles simultaneously. Detectable particle size range: 0.2～50μm. Sensitivity: FITC<75MESF, PE<50MESF.

|  |  |  |  |
| --- | --- | --- | --- |
| Lasers | FL | Channels | Default Fluorochrome Alias |
| 488 Bule Laser | BL1 | 530/30 | FITC |
| BL2 | 572/28 | PE |
| BL3 | 615/20 | PE-Texas Red |
| BL4 | 675/30 | PerCP |
| BL5 | 780/60 | PE-Cy7 |
| 640 Red Laser | RL1 | 675/30 | APC |
| RL2 | 780/60 | APC-Cy7 |
| 405 Violet Laser | VL1 | 445/45 | Pacific Blue |
| VL2 | 530/30 | AmCyan |
| VL3 | 572/28 | Pacific Orange |
| VL4 | 615/20 | Qdot 605 |
| VL5 | 675/30 | Qdot 655 |
| VL6 | 780/60 | Qdot 800 |