**Cryo-EM supplies and consumables kit for one person for Single Particle Analysis Applications:**

**Note that it is each labs decision if these tools need to be shared between lab members or that all tools are used individually. Also some expensive tools could be share between lab members while others are used on an individual basis. Nevertheless, when preparing grids at the core facility, the below are the minimum suggested supplies needed to bring along with you for each session. We have no storage capabilities for tools nor frozen samples. Depending on the type EM-grids you choose to use a price indication of the below list is ~2000-3000 euro.**

**Sample preparation on Vitrobot:**

* **Vitrobot blot paper (suggestion 2 packages):**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1166-65 | Vitrobot™ Filter Paper | 100/pk | 38.00 |  |

<https://www.emsdiasum.com/microscopy/products/grids/accessories.aspx#71166-65>

* **Gripper tool for cryo grid boxes (suggestion 1x):**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 71166-SP | Gripper Tool for Cryo Grid Boxes | each | 36.00 |  |

<https://www.emsdiasum.com/microscopy/products/grids/accessories.aspx#71166-65>

* **Grid storage box (suggestion 10 boxes)( pick right model!)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 71166-40 | Cryo Grid Box, w/Pin Type Lid for FEI Vitrobot | each | 19.00 |  |

<https://www.emsdiasum.com/microscopy/products/grids/accessories.aspx#71166-65>

* **MR-10 positive displacement pipette PLUS TIPS (suggestion 1x)**

Positive displacement pipette, 0.5 μl–10 μl -10 μl #17008575

<https://www.mt.com/fr/fr/home/products/pipettes/liquid-handling/pos-d-positive-displacement-pipette.html>

* **Vitrobot Mark IV tweezers (suggestion 1 per person, 1 spare for department)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Vitrobot Tweezers assembly | AG47000-500 | In Stock | EA | £790.02 |

<http://www.agarscientific.com/replacement-tweezers-assembly-for-fei-vitrobot-mark-iv-i.html>

**Or VB tweezers directly from Thermofisher:**

Consumables for the Krios/Glacios can be ordered by sending an email with the requested parts to: [MSD.support.france@thermofisher.com](mailto:MSD.support.france@thermofisher.com)

They will then provide you with a quote

Vitrobot Tweezers (Service no. FEI0310S)

* Stainless steel long 30cm tweezers (suggestion 2x)

## stainless steel forceps rounded ends length 300 mm 442122 14.70euro

<https://www.dutscher.com/frontoffice/reference/442122>

* EM grids (any type your sample needs):

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Lacey Carbon Films on 200 Mesh Copper Grids (Pack of 50) | AGS166 | In Stock | EA | £153.65 |

Lacey carbon film on copper (cheap simple, works very well with fibrous proteins) 200mesh, copper support:

* + <http://www.agarscientific.com/tem/lacey-carbon-support-films/lacey-carbon-films.html>

Quantifoil standard carbon on copper support or special single particle analysis gold foil gold grids.

* + <https://www.quantifoil.com/index.php?name=online_order>
    - Standard R2/2 Cu 200 mesh (100 grids)
    - Standard R1.2/1.3 Cu 200 mesh (100 grids)
    - UltraAufoil R1.2/1.3 Au 300 mesh (100 grids)
    - UltraAufoil R0.6/1 Au 300 mesh (100 grids)

For practice and first attempt most labs use 200 mesh Cu grids with either 1.2 micron holes or 2 micron holes depending on the size of the proteins studied

For ultra high resolution imaging when an initial model had already been obtained one can try the gold foils with small holes and 1 image per hole with the 0.6 hole size and 300 mesh (smaller mesh size) grids or 1.2 for multiple images in a hole.

**sDelivery time from QF can be very long!! Several months are not unusual so many labs place large orders to have enough in stock. Tip: an open PO for regular 3 months’ delivery is possible.**

For **training** on the vitrobot **without** imaging/screening or data collection do not use expensive QF grids but simple Cu grids with formvar or carbon film also used for negative stain , for instance:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Carbon Films on 200 Mesh Grids Copper (Pack of 50) | AGS160 | In Stock | EA | £97.01 |

* + <http://www.agarscientific.com/carbon-films.html>
* **Grid handling tweezers (suggestion minimum 3 per person)**

For instance, we use style 3C inox but others prefer sharper tips or antistatic Pt coated tips:

|  |  |
| --- | --- |
| 3 times 72681-D | Dumont Style 3C Inox 8 |

<https://www.emsdiasum.com/microscopy/products/tweezers/dumont_positive_action.aspx>

* Lab coats
* Lab glasses
* A liquid nitrogen small transport dewar to transport your grids (any of your choice)
* 25 mL falcon tube with string attached to store your grid boxes in during transport in the dewar

**Screening and imaging on Glacios and Titan:**

**For imaging on the Titan and Glacios microscopes at the core, the grids need to be mounted in autogrid cartridges. Here we only accept Thermofisher scientific original components which include: autogrids storage boxes and autogrid tweezers, autogrid-rings and springs (C-clip).**

Consumables for the Krios/Glacios can be ordered by sending an email with the requested parts to TF directly: [MSD.support.france@thermofisher.com](mailto:MSD.support.france@thermofisher.com)

They will then provide you with a quote

* AutoGrid Container (20x) (Cat. no. 1084591)
* C-Clip (100x) (Cat. no. 1036171)
* C-Clip Ring (100x) (Cat. no. 1036173)

**Data Collection:**

**until a permanent solution has been established, we require the data to be offloaded to hard-drives. We suggest to bring at least a two 4TB hard freshly formatted drives to bring with you. Due to the direct connection to the microscope all drives needs to be formatted prior to being connected to it.**