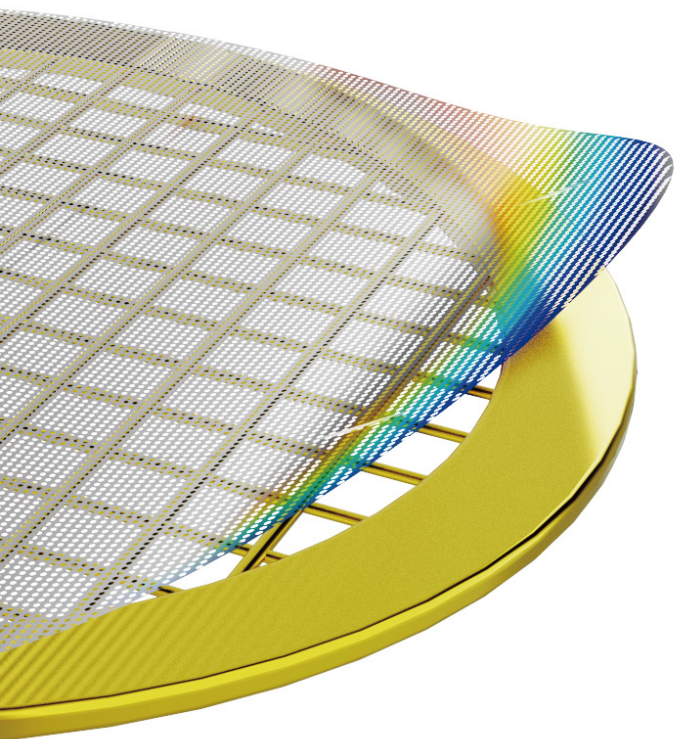
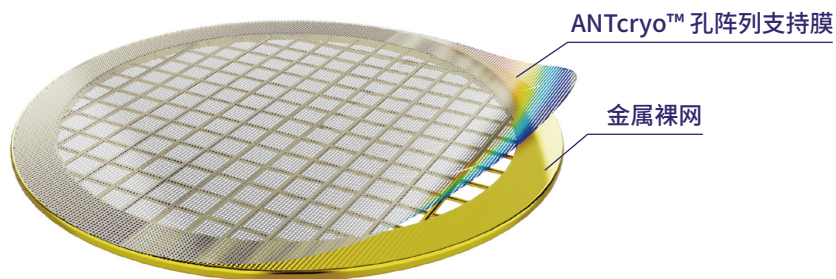




产品使用说明书

■ ANTcryo™孔阵列支持膜

ANTcryo™ 的品名来自于Amorphous Nickel Titanium (非晶镍钛合金) for CryoEM的缩写，具有高进孔率、高导电性和用户友好的优势，与传统碳膜相比，分辨率上的提升超过0.2Å。



■ 使用说明

1.区分ANTcryo™ 有膜面：ANTcryo™一面呈现灰黑色，一面呈载网裸网金属色。

有膜面为正面，朝向包装盒下方（请注意包装盒上的标识）。

2.等离子清洗：将载网有膜面朝上，放入等离子清洗仪中做表面亲水化处理。

推荐使用参数：

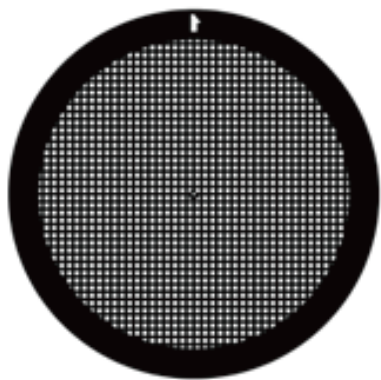
- *Gatan Solarus Plasma Cleaner: 50W, H2/O2, 1min*
- *PELCO easiGlow™ Glow Discharge Cleaning System: 15mA 30-60s*

3.样品浓度：不同的样品合适浓度不同，以Apoferritin为例，1-1.5mg/ml为合适浓度。

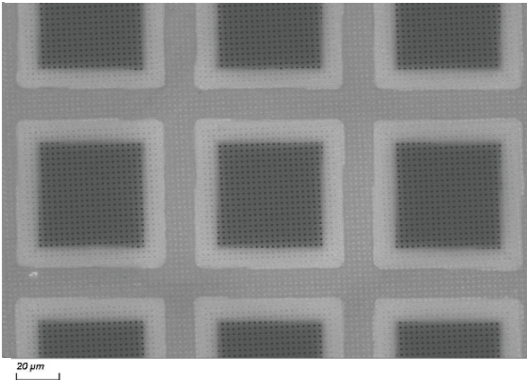
4.冷冻样品制备：载网可匹配目前常用的冷冻样品制备仪，可按照设备的标准流程制备。

生产方式

采用真空镀膜方式获得高均一性的孔阵列薄膜，薄膜依靠范德华力与金属裸网紧密贴合。

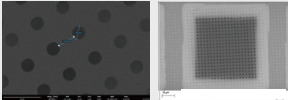


金属裸网



覆盖ANTCryo™ 孔阵列支持膜后的载网

质检方式

质检工序	测定方法和内容	测量率	合格定义	质检照片示例
薄膜覆盖完整度	采用光学显微镜40X放大，检测薄膜完整度。	全检 100%	完整度达90%以上为合格品	
薄膜贴合度	采用等离子清洗仪，和Vitrobot按说明书使用方法完成制样流程后，检查Vitrobot滤纸上是否有残膜。	抽检 10%	滤纸上无膜碎片为合格品	
孔阵列缺憾	采用扫描电子显微镜，15kV，4万倍拍1张照片，测量孔径孔距尺寸。1-2万倍下拍1张照片，检查孔内是否有污染物。	抽检 10%	同时满足孔径孔距尺寸在规格误差范围内，孔内无污染物为合格品	

■ 厚度测量方式

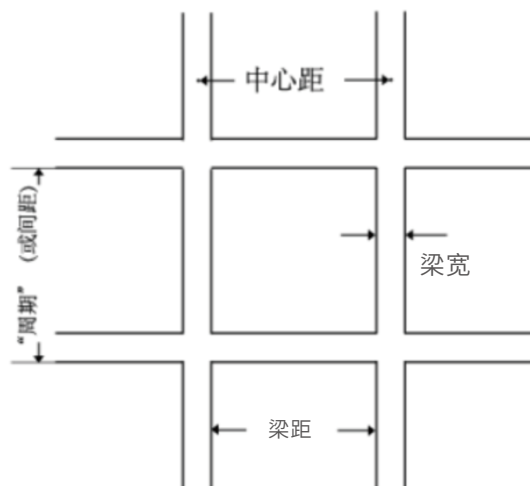
薄膜厚度标定采用原子力显微镜测量薄膜台阶厚度方法测定。

■ 储存方法和保质期

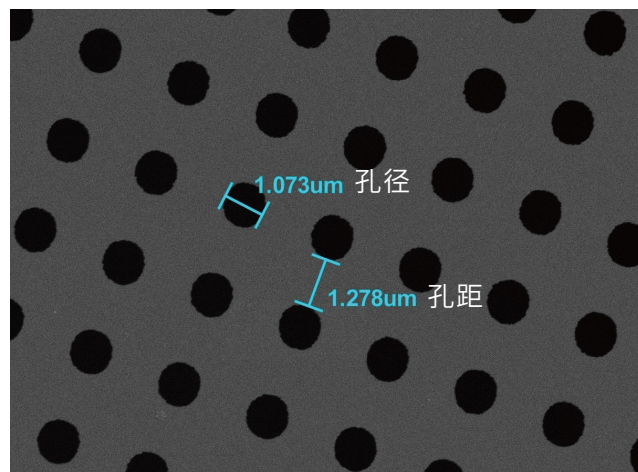
ANTcryo™应储存在网格存储盒中，在黑暗、凉爽和低湿度的环境中。

一般没有保质期，但我们建议在两年内使用。

■ 金属裸网格与薄膜孔的参数



中心距=梁距+梁宽



孔径与孔距

型号规格说明

推荐【**常规型号**:**价格低, 货期短**】: 由于90%以上的用户需求产品为M01-M04, 为提高生产销售效率, 将此四种型号列为常规型号, 货期一般为**4周**。

型号	网格	中心距(um)	梁宽(um)	梁间距(um)	薄膜厚度(nm)	孔径(um)	孔距(um)	数量
M01 (Au300-R1.2/1.3)	Au 300目	83	25	58	22±3	1.2±0.2	1.3±0.2	50枚
M02 (Cu300-R1.2/1.3)	Cu 300目	83	25	58	22±3	1.2±0.2	1.3±0.2	50枚
M03 (Au400-R1.2/1.3)	Au 400目	62	25	37	22±3	1.2±0.2	1.3±0.2	50枚
M04 (Au300-R2.0/1.0)	Au 300目	83	25	58	25±3	2.0±0.2	1.0±0.2	50枚

不推荐【**定制型号**:**价格高, 货期长**】: 货期一般为**8周**。

型号	网格	中心距(um)	梁宽(um)	梁间距(um)	薄膜厚度(nm)	孔径(um)	孔距(um)	数量
M05 (Au300-R0.8/1.8)	Au 300目	83	25	58	22±3	0.8±0.2	1.8±0.2	50枚
M06 (Cu300-R0.8/1.8)	Cu 300目	83	25	58	22±3	0.8±0.2	1.8±0.2	50枚
M07 (Au200-R1.2/1.3)	Au 200目	125	35	90	22±3	1.2±0.2	1.3±0.2	50枚
M08 (Cu400-R1.2/1.3)	Cu 400目	62	25	37	22±3	1.2±0.2	1.3±0.2	50枚
M09 (Cu400-R0.8/1.8)	Cu 400目	62	25	37	22±3	0.8±0.2	1.8±0.2	50枚
M10 (Au400-R0.8/1.8)	Au 400目	62	25	37	22±3	0.8±0.2	1.8±0.2	50枚
M11 (Au200-R0.8/1.8)	Au 200目	125	35	90	22±3	0.8±0.2	1.8±0.2	50枚
M12 (Cu400-R2.0/2.0)	Cu 400目	62	25	37	22±3	2.0±0.2	2.0±0.2	50枚
M13 (Au400-R2.0/2.0)	Au 400目	62	25	37	22±3	2.0±0.2	2.0±0.2	50枚
M14 (Cu300-R2.0/2.0)	Cu 300目	83	25	58	22±3	2.0±0.2	2.0±0.2	50枚
M15 (Au300-R2.0/2.0)	Au 300目	83	25	58	22±3	2.0±0.2	2.0±0.2	50枚
M16 (Au200-R2.0/2.0)	Au 200目	125	35	90	22±3	2.0±0.2	2.0±0.2	50枚
M17 (Au400-R1.0/1.0)	Au 400目	62	25	37	22±3	1.0±0.2	1.0±0.2	50枚
M18 (Cu300-R1.0/1.0)	Cu 300目	83	25	58	22±3	1.0±0.2	1.0±0.2	50枚
M19 (Cu400-R1.0/1.0)	Cu 400目	62	25	37	22±3	1.0±0.2	1.0±0.2	50枚
M20 (Au300-R1.0/1.0)	Au 300目	83	25	58	22±3	1.0±0.2	1.0±0.2	50枚
M21 (Au200-R1.0/1.0)	Au 200目	125	35	90	22±3	1.0±0.2	1.0±0.2	50枚
M22 (Cu400-R2.0/1.0)	Cu 400目	62	25	37	25±3	2.0±0.2	1.0±0.2	50枚
M23 (Cu300-R2.0/1.0)	Cu 300目	83	25	58	25±3	2.0±0.2	1.0±0.2	50枚
M24 (Au400-R2.0/1.0)	Au 400目	62	25	37	25±3	2.0±0.2	1.0±0.2	50枚
M25 (Au200-R2.0/1.0)	Au 200目	125	35	90	25±3	2.0±0.2	1.0±0.2	50枚
M26 (Cu200-R2.0/1.0)	Cu 200目	125	35	90	25±3	2.0±0.2	1.0±0.2	50枚
M27 (Cu200-R1.0/1.0)	Cu 200目	125	35	90	22±3	1.0±0.2	1.0±0.2	50枚
M28 (Cu200-R2.0/2.0)	Cu 200目	125	35	90	22±3	2.0±0.2	2.0±0.2	50枚
M29 (Cu200-R0.8/1.8)	Cu 200目	125	35	90	22±3	0.8±0.2	1.8±0.2	50枚
M30 (Cu200-R1.2/1.3)	Cu 200目	125	35	90	22±3	1.2±0.2	1.3±0.2	50枚

■ 常见问题

1.ANTcryo™与金膜相比有什么优势？

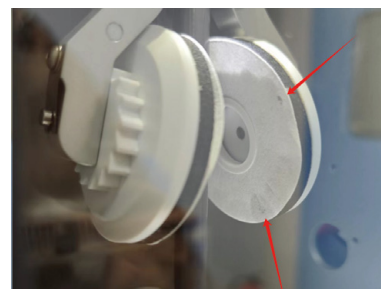
ANTcryo™与金膜产品均是金属支持膜，具有优秀的导电性。进一步的，ANTcryo™采用的镍钛合金膜是一种非晶材料，可以匹配常用的电镜合轴方法，在coma的调节上比金膜的使用更方便。

2.ANTcryo™与常用的碳支持膜相比有什么优势？

ANTcryo™与常用的碳支持膜相比，具有高导电性、高生物相容性、不吸附颗粒的特点。可以有效降低BIM，提高结构解析的分辨率；提高颗粒的进孔率，从而有效提高制样成功率。

3.使用Vitrobot制样时，blot后滤纸上有灰黑色斑块，如图所示。

由于支持膜与金属裸网之间依靠范德华力黏附，偶尔遇见一枚轻微掉膜的产品属于正常现象。若每盒产品有10%以上出现掉膜情况，请保存掉膜的照片（将blot后的滤纸拍照）联系厂家售后。厂家将对掉膜产品做一对一的换货处理。



4.电镜观察中，发现部分膜区破损。

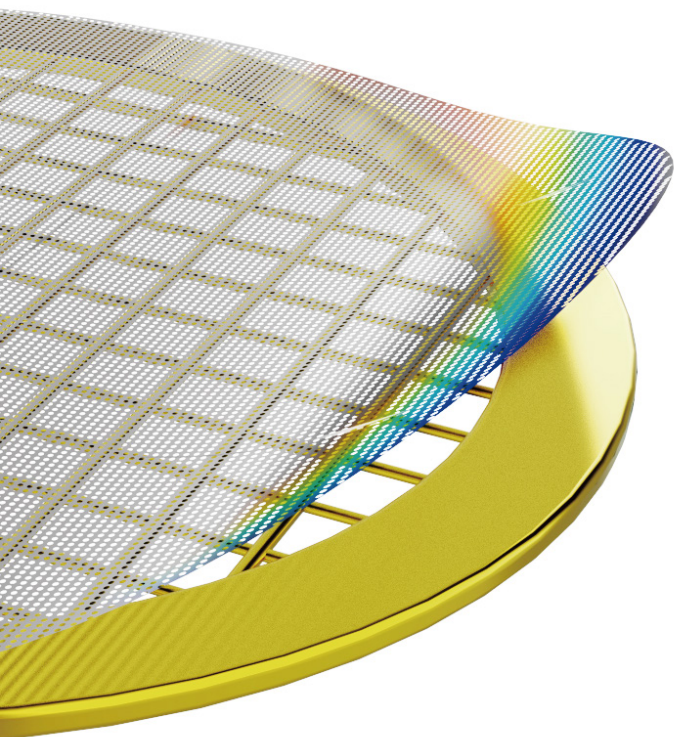
若制样时使用Vitrobot，由于滤纸双面blot载网时，会对支持膜产生较大破坏力，ANTcryo™支持膜标准厚度均在20-30纳米左右，有部分膜区被破损属于正常现象。若您发现该载网上存在50%及以上膜区被严重损坏，请保存电镜照片，联系厂家售后。厂家将对该产品做一对一的换货处理。



欢迎扫码关注



欢迎扫码咨询



ANTerjo

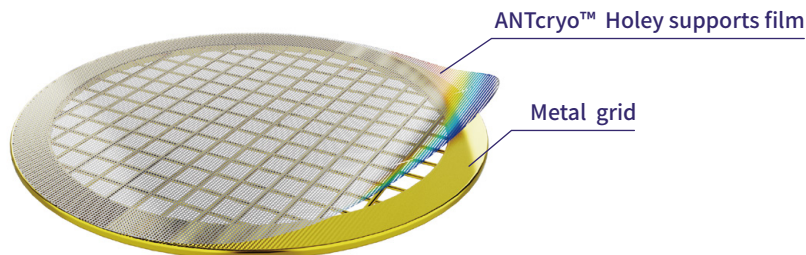
THE BEST GRID FOR SPA

www.nanodim.cn

Product Manual

■ ANTcryo™ Holey supports film

The product name "ANTcryo™" is derived from the abbreviation for "Amorphous Nickel Titanium for CryoEM," featuring high porosity, excellent conductivity, and user-friendly advantages. In comparison to traditional carbon films, it achieves a resolution improvement of over 0.2 Å.



■ Usage Instructions

1. Differentiate ANTcryo™ film sides: ANTcryo™ has one side in a gray-black color, and the other side in the color of the bare metal grid. The side with the film is the front side, facing downward into the packaging box (please observe the markings on the packaging box).

2. Plasma Cleaning: Place the grid with the film side facing up into a plasma cleaner for surface hydrophilization treatment.

Recommended parameters are as follows:

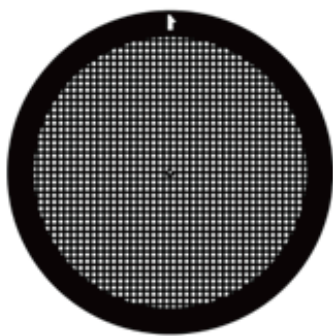
- *Gatan Solarus Plasma Cleaner:* 50W, H₂/O₂, 1min
- *PELCO easiGlow™ Glow Discharge Cleaning System:* 15mA 30-60s

3. Sample Concentration: Different samples require varying concentrations. For example, Apoferritin is suitable at a concentration of 1-1.5mg/ml.

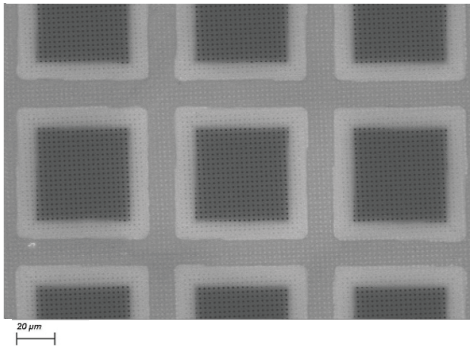
4. Cryo Sample Preparation: The grid is compatible with commonly used Cryo sample preparation instruments. Follow the standard procedures of the equipment for sample preparation

Production Method

The production of ANTcryo™ involves the use of a vacuum deposition process to achieve a highly uniform arrangement of pores in the thin film. The film relies on van der Waals forces to tightly adhere to the metal bare grid, ensuring a close integration.



Metal grid



The grid covered with ANTcryo™ holey supports

Quality Inspection Methods

Quality inspection process	Measurement method & content	Measurement rate	Qualified definition	Quality inspection photo example
Film coverage integrity	Using an optical microscope at 40X magnification to inspect the integrity of the film.	100% Inspection	A completeness level of 90% or above is considered as qualified.	
Adhesion between the film and the grid	After utilizing a plasma cleaner and following the instructions for the Vitrobot sample preparation process, inspect the Vitrobot filter paper to check for any remaining film.	10% Random inspection	If there are no membrane fragments on the filter paper, it is a qualified product.	
Holey defects	Using a scanning electron microscope at 15kV, taking a photo at 40,000x magnification to measure pore size, and at 10,000-20,000x magnification to inspect for contaminants inside the pores.	10% Random inspection	A qualified product should meet the specified dimensional requirements for pore size and spacing within the specified tolerance range, with no contaminants inside the pores.	

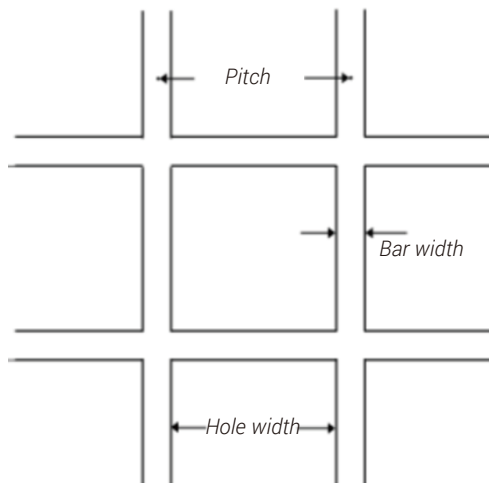
■ Thickness measurement method

The thin film thickness calibration is determined using the atomic force microscope to measure the step height of the thin film.

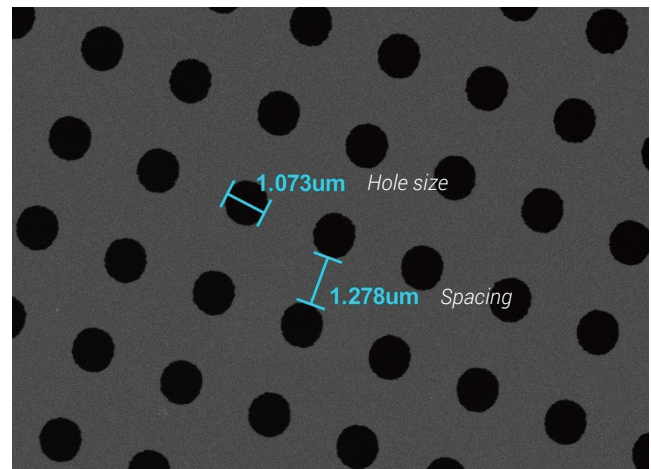
■ Storage Method and Shelf Life

ANTcryo should be stored in a grid storage box, in a dark, cool, and low humidity environment. Generally, there is no specified shelf life, but we recommend using it within 2 years.

■ Parameters of the Metal Bare Grid and Thin Film Pores



$$\text{Pitch} = \text{Bar width} + \text{Hole width}$$



Hole size and Spacing

Model specifications

We Recommend *[Standard Models: Low Price, Short Lead Time]*: Due to the demand from over 90% of users for products M01-M04, to enhance production and sales efficiency, these 4 models are categorized as standard models. The delivery time is typically 4 weeks.

Model	Mesh	Pitch (um)	Bar width (um)	Hole width (um)	Membrane thickness(nm)	Hole size (um)	Spacing (um)	Qty
M01 (Au300-R1.2/1.3)	Au 300	83	25	58	22±3	1.2±0.2	1.3±0.2	50pcs
M02 (Cu300-R1.2/1.3)	Cu 300	83	25	58	22±3	1.2±0.2	1.3±0.2	50pcs
M03 (Au400-R1.2/1.3)	Au 400	62	25	37	22±3	1.2±0.2	1.3±0.2	50pcs
M04 (Au300-R2.0/1.0)	Au 300	83	25	58	25±3	2.0±0.2	1.0±0.2	50pcs

Not Recommended *[Custom Models: Higher Price, Longer Lead Time]*: The delivery time is 8 weeks.

Model	Mesh	Pitch (um)	Bar width (um)	Hole width (um)	Membrane thickness(nm)	Hole size (um)	Spacing (um)	Qty
M05 (Au300-R0.8/1.8)	Au 300	83	25	58	22±3	0.8±0.2	1.8±0.2	50pcs
M06 (Cu300-R0.8/1.8)	Cu 300	83	25	58	22±3	0.8±0.2	1.8±0.2	50pcs
M07 (Au200-R1.2/1.3)	Au 200	125	35	90	22±3	1.2±0.2	1.3±0.2	50pcs
M08 (Cu400-R1.2/1.3)	Cu 400	62	25	37	22±3	1.2±0.2	1.3±0.2	50pcs
M09 (Cu400-R0.8/1.8)	Cu 400	62	25	37	22±3	0.8±0.2	1.8±0.2	50pcs
M10 (Au400-R0.8/1.8)	Au 400	62	25	37	22±3	0.8±0.2	1.8±0.2	50pcs
M11 (Au200-R0.8/1.8)	Au 200	125	35	90	22±3	0.8±0.2	1.8±0.2	50pcs
M12 (Cu400-R2.0/2.0)	Cu 400	62	25	37	22±3	2.0±0.2	2.0±0.2	50pcs
M13 (Au400-R2.0/2.0)	Au 400	62	25	37	22±3	2.0±0.2	2.0±0.2	50pcs
M14 (Cu300-R2.0/2.0)	Cu 300	83	25	58	22±3	2.0±0.2	2.0±0.2	50pcs
M15 (Au300-R2.0/2.0)	Au 300	83	25	58	22±3	2.0±0.2	2.0±0.2	50pcs
M16 (Au200-R2.0/2.0)	Au 200	125	35	90	22±3	2.0±0.2	2.0±0.2	50pcs
M17 (Au400-R1.0/1.0)	Au 400	62	25	37	22±3	1.0±0.2	1.0±0.2	50pcs
M18 (Cu300-R1.0/1.0)	Cu 300	83	25	58	22±3	1.0±0.2	1.0±0.2	50pcs
M19 (Cu400-R1.0/1.0)	Cu 400	62	25	37	22±3	1.0±0.2	1.0±0.2	50pcs
M20 (Au300-R1.0/1.0)	Au 300	83	25	58	22±3	1.0±0.2	1.0±0.2	50pcs
M21 (Au200-R1.0/1.0)	Au 200	125	35	90	22±3	1.0±0.2	1.0±0.2	50pcs
M22 (Cu400-R2.0/1.0)	Cu 400	62	25	37	25±3	2.0±0.2	1.0±0.2	50pcs
M23 (Cu300-R2.0/1.0)	Cu 300	83	25	58	25±3	2.0±0.2	1.0±0.2	50pcs
M24 (Au400-R2.0/1.0)	Au 400	62	25	37	25±3	2.0±0.2	1.0±0.2	50pcs
M25 (Au200-R2.0/1.0)	Au 200	125	35	90	25±3	2.0±0.2	1.0±0.2	50pcs
M26 (Cu200-R2.0/1.0)	Cu 200	125	35	90	25±3	2.0±0.2	1.0±0.2	50pcs
M27 (Cu200-R1.0/1.0)	Cu 200	125	35	90	22±3	1.0±0.2	1.0±0.2	50pcs
M28 (Cu200-R2.0/2.0)	Cu 200	125	35	90	22±3	2.0±0.2	2.0±0.2	50pcs
M29 (Cu200-R0.8/1.8)	Cu 200	125	35	90	22±3	0.8±0.2	1.8±0.2	50pcs
M30 (Cu200-R1.2/1.3)	Cu 200	125	35	90	22±3	1.2±0.2	1.3±0.2	50pcs

■ FAQ

1.What are the advantages of ANTcryo™ compared to gold films?

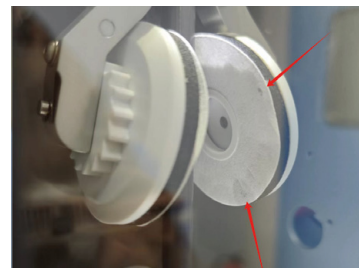
ANTcryo™ and gold film products are both metal support films with excellent conductivity. Additionally, the nickel titanium alloy film used in ANTcryo™ is an amorphous material, compatible with commonly used electron microscopy alignment methods. This makes adjusting coma more convenient compared to the use of gold film.

2.What are the advantages of ANTcryo™ compared to commonly used carbon support films?

In comparison to commonly used carbon support films, ANTcryo™ features high conductivity, excellent biocompatibility, and non-particle adsorption. These characteristics effectively reduce beam-induced motion (BIM), improving the structural resolution in electron microscopy. Moreover, the elevated porosity of ANTcryo™ enhances the success rate of sample preparation by increasing the penetration of particles into the pores.

3.When using Vitrobot for sample preparation, there are gray-black patches on the filter paper after blotting, as shown in the image.

Due to the adhesion between the support film and the metal bare grid relying on van der Waals forces, occasionally encountering a product with slight film detachment is considered a normal occurrence. If more than 10% of the products in a box exhibit film detachment, please capture photos of the affected samples (take pictures of the filter paper after blotting) and contact the manufacturer's after-sales support. The manufacturer will provide one-to-one replacement for the products experiencing film detachment.



4.In Electron Microscopy observations, partial membrane damage has been detected.

If using the Vitrobot for sample preparation, the double-sided blotting of the filter paper may exert significant force on the support film. The standard thickness of ANTcryo™ supports film is typically around 20-30 nanometers, and some membrane areas being damaged during the process is considered normal. If you observe that 50% or more of the membrane areas on a specific grid are severely damaged, please save electron microscope images and contact the manufacturer's after-sales support. The manufacturer will provide one-to-one replacement for the affected product.



Website : www.nanodim.cn
Purchase : sales@nanodim.cn
Technical support : support@nanodim.cn