

Workflow Validation for Single Particle Analysis

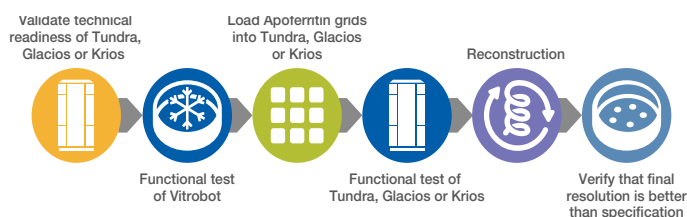
A standardized representative test to verify the correct functioning of the systems contributing to the SPA workflow

A successful Single Particle Analysis requires seamless coordination across the Vitrobot, Cryo-EM microscope (Tundra, Glacios, or Krios systems), and the camera systems. If one aspect of this workflow is not optimized, a high-resolution data set and reconstruction may not be successful, causing researchers to lose valuable time on their critical scientific pursuit.

The Workflow Validation is a standardized representative test using a vitrified sample to verify the correct functioning of the Vitrobot, microscope (Tundra, Glacios or Krios systems), and camera systems, all under the conditions at the customer site.

The steps in the Workflow Validation process include:

- Validate technical readiness of Tundra, Glacios or Krios.
 - Update application and server software to latest versions
 - Perform all microscope alignments and relevant calibrations
 - Verify systems are functioning according to SAT specifications
 - Check and replace any consumables
- Functional test of the Vitrobot (if applicable)
 - Onsite Preparation of a known biological specimen (Apo ferritin)
 - Pre-screened ApoF sample may be provided in conjunction, or instead of specimen made on-site.
- Load Apoferritin grids into Tundra, Glacios or Krios.
 - Screen samples



- Functional test of Tundra, Glacios or Krios
 - Collect a high-resolution dataset using EPU software
- Reconstruction
 - Software reconstruction of EPU dataset
 - Verify that final resolution is better than specification
 - For Tundra, guarantees 3.5 Angstroms
 - For Glacios, guarantees 3.0 Angstroms
 - For Krios, guarantees 2.5 Angstroms
- Thermo Fisher Scientific will resolve issues with any of the steps described above.

We are targeting a specified final resolution per system to confirm that there are no issues with the sample or instruments that would lessen the quality of the final reconstructed image. Thermo Fisher Scientific is the only supplier that validates a successful execution of the Single Particle Analysis workflow.

The Workflow Validation service demonstrates that the Vitrobot and the Cryo-TEM instrument on your site are ready for state-of-the-art SPA application. By validating your multi-step workflow you can be confident that you will produce images of immaculate resolution, so you can quickly progress your scientific research and make the most of your Thermo Scientific equipment every day.

Our service packages include many additional elements to optimize your Thermo Scientific Single Particle Analysis workflow.

Notes:

1. Only the systems under the Accelerate for Single Particle Analysis contract will be validated. Technical validation is mandatory for all systems used in the workflow validation.
2. In case the root cause is not controlled by Thermo Fisher Scientific, we will provide advice to resolve the root cause.

Find out more at thermofisher.com/emserviceandsupport

ThermoFisher
SCIENTIFIC