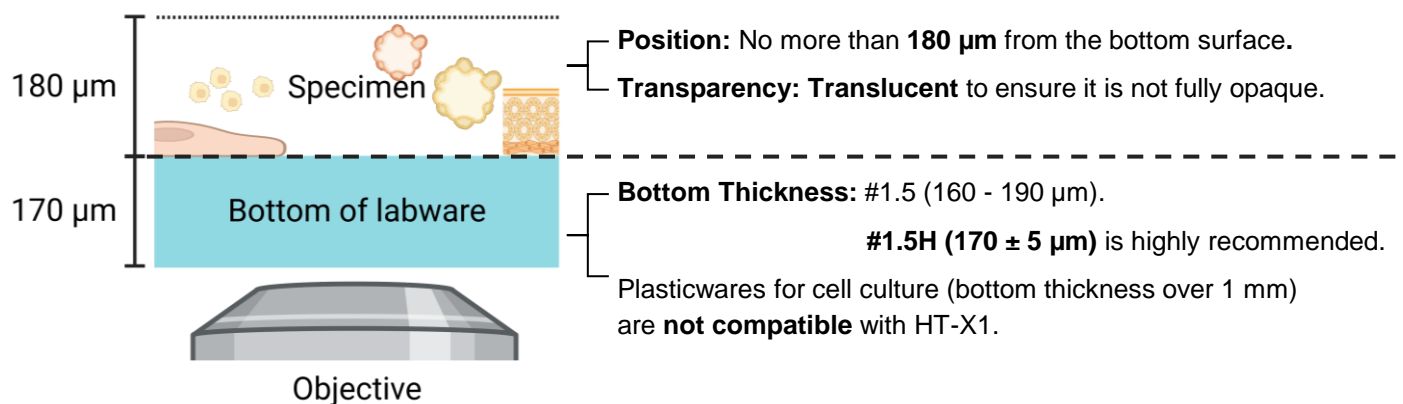


HT-X1 Specimen Preparation Guide

1. General requirements



2. Compatible labware

➤ Commercial products for high-resolution imaging

▪ Specifications of verified products

Category	Product (Cat. No.)	Well number	Culture area (cm ²)	Working volume (mL)	Lateral resolution (nm)
Imaging dish	Tomocube TomoDish (901002-02)	1	20.2	3	156
	ibidi µ-Dish 35 mm, high Glass Bottom (81158)	1	7.5	2	156
	Cellvis 35 mm dish (D35-20-1.5H)	1	9.6	2	156
Multiwell plate	Tomocube HT-Ready 96 well plate (900104-01)	60 ¹⁾ / 96 ²⁾	0.55	0.2	156 ¹⁾ / 205 ²⁾
	Cellvis 6-well plate (P06-1.5H-N)	6	9.6	2	161
	Cellvis 12-well plate (P12-1.5H-N)	12	3.8	1	179
	Cellvis 24-well plate (P24-1.5H-N)	24	1.9	0.5	205
Slide / Chip	ibidi µ-Slide I Luer (80177)	1	2.5	0.06	156
	ibidi µ-Slide VI - Flat (80626)	6	0.6	0.03	156
	ibidi µ-Slide 8 well (80827)	8	1.0	0.3	179

¹⁾ Best performance mode (60 wells), ²⁾ Full scan mode (96 wells)

- Refer to the product specifications for the details of each verified labware.
- If the labware you wish to use is not listed, verify its compatibility from the specifications of a similar product.
- When using a labware that is not in the list, it is recommended to create an appropriate vessel map to ensure optimal imaging results.

➤ Custom-made sample carriers

- Ensure the bottom thickness is #1.5 (160 - 190 µm). **#1.5H (170 ± 5 µm)** is highly recommended.
- A broader channel width is preferable for imaging.
- A vessel map for the custom-made sample carrier should be created and registered in **TomoStudio X**.

HT-X1 Specimen Preparation Guide

3. Specimen preparation

➤ Recommendations for common specimens


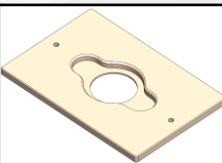
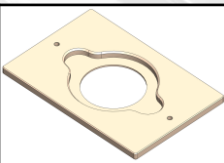
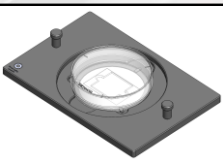
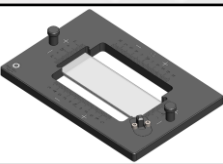
Category	Specimens	Recommended labware	Remarks
2D culture	Adherent cell (HeLa, Hep3B)	TomoDish ibidi μ -Dish 35 mm	<ul style="list-style-type: none"> Select imaging dish for enhanced resolution and imaging quality. Multiwell plates are suitable for multiple simultaneous analyses.
	Suspension cell (K562, THP-1)	Cellvis 24-well plate HT-Ready 96 well	
3D culture	Matrix-embedded culture (Organoids in hydrogel)	Cellvis 35 mm dish Cellvis 6-well plate	<ul style="list-style-type: none"> Please refer 'Organoid sample preparation for HT-X1' for detailed information.
	Suspension culture (Tumor spheroid)	Cellvis 35 mm dish	
Microorganism	Bacteria / Fungi (E.coli, Yeast)	TomoDish	<ul style="list-style-type: none"> Specimen immobilization on the bottom surface is highly recommended.
	Protozoan (Diatoms, Stentor)	TomoDish Cellvis 35 mm dish	<ul style="list-style-type: none"> Applying top coverslip¹⁾ can prevent specimen movement during the acquisition.
Section	Tissue / Organoid (Thickness $\leq 140 \mu\text{m}$)	TomoDish Microscopic Slide	<ul style="list-style-type: none"> Top coverslip¹⁾ should be applied. Check the Refractive index of mountant and in TomoStudio X under experiment setup

¹⁾ 20x20 mm Square coverslip with #1.5 thickness (Marienfeld, 0102042)

- If your specimen is not included in the list, identify similar specimens and compare their characteristics.

4. Specimen mounting

➤ Basic vessel holders for specimen mounting

Vessel holder					
Model	ATX-W	TC-35mm-UNIV	TC-50mm-UNIV	TC-50mm-POS	TC-75X25-Slide
Compatible vessel	Well plates	35 mm dish	TomoDish & 50 mm dish	TomoDish	75X25 Slideglass

- Select the suitable vessel holder. **Dish holder** should be attached using the **universal adapter** provided.
- Ensure that all assemblies are **secure and not tilted**. Inappropriate sample mounting can cause **failure of imaging procedure and image quality**.
- Please refer '**HT-X1 User manual**' for additional vessel holders with **multi-dish compatibility** and **locking feature**.

- For holotomography imaging and operation procedure of HT-X1, please refer 'Quick guide - How to Operate the HT-X1 Holotomography'.
- For additional information, please contact us at (support@tomocube.com).