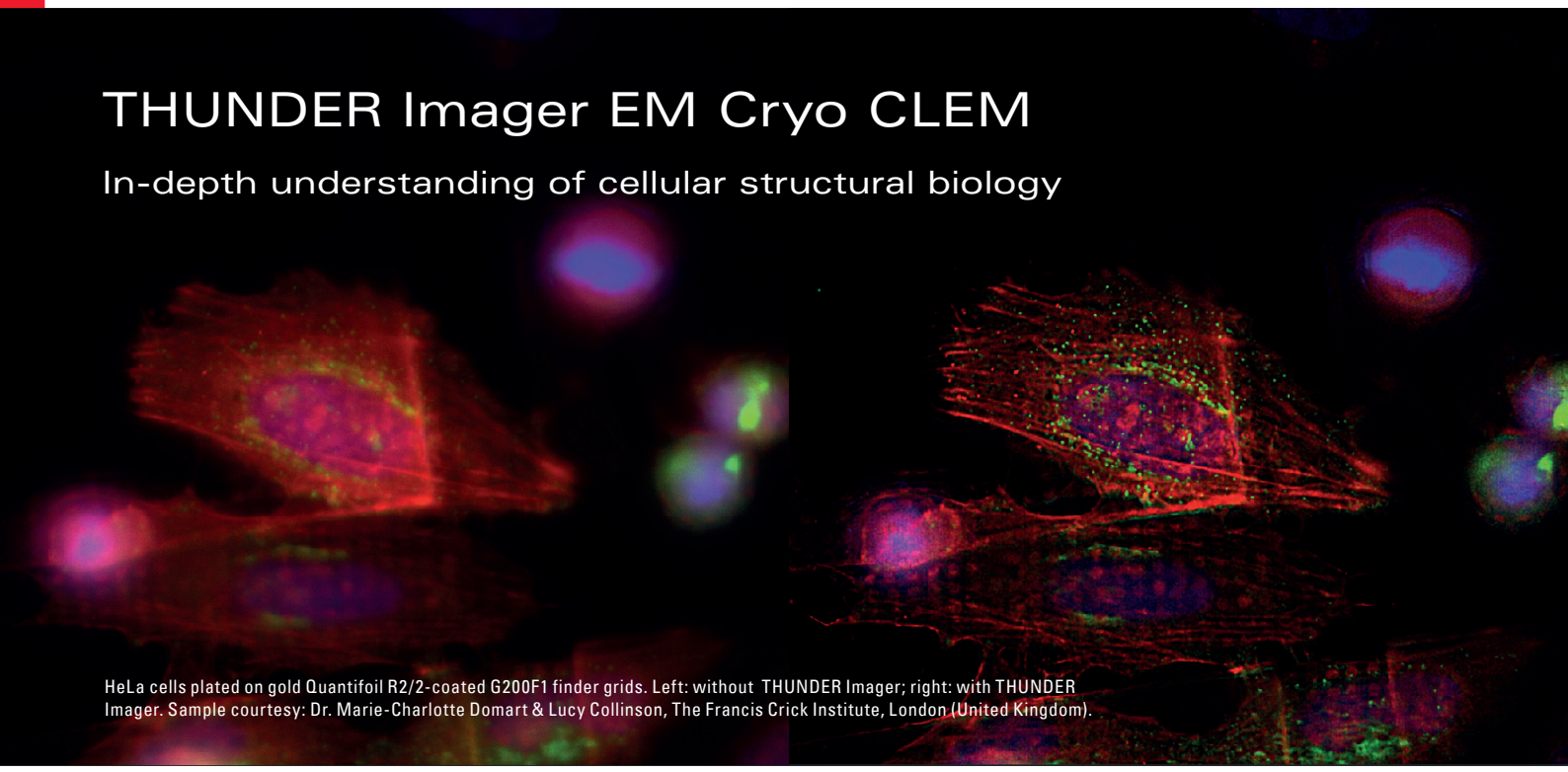
From Eye to Insight

Leica MICROSYSTEMS

THUNDER Imager EM Cryo CLEM

In-depth understanding of cellular structural biology



HeLa cells plated on gold Quantifoil R2/2-coated G200F1 finder grids. Left: without THUNDER Imager; right: with THUNDER Imager. Sample courtesy: Dr. Marie-Charlotte Domart & Lucy Collinson, The Francis Crick Institute, London (United Kingdom).

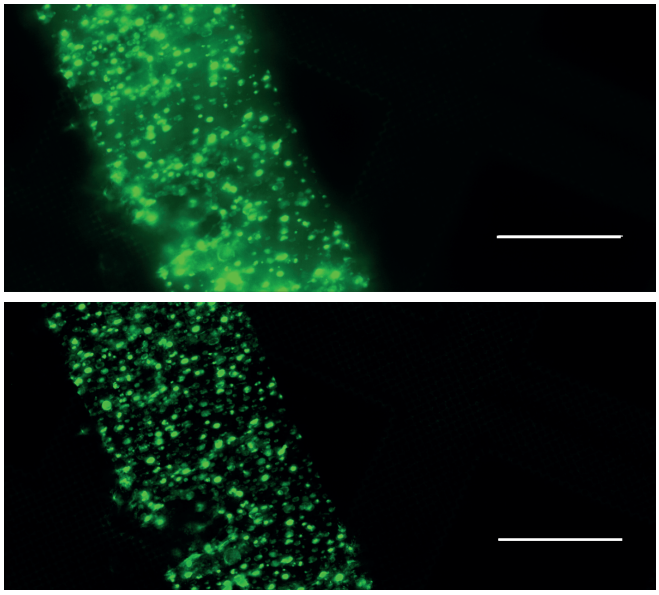
Get crisp, haze-free images with our cryo light microscope THUNDER Imager EM Cryo CLEM. Precisely identify cellular structures of interest thanks to opto-digital THUNDER technology.

For optimal visualization of cellular structures, the THUNDER Imager EM Cryo CLEM combines a high-resolution cryo objective with the innovative THUNDER technology from Leica Microsystems. You benefit from better identification and visualization of the fine details of cell structures together with the speed and ease-of-use of a widefield microscope.

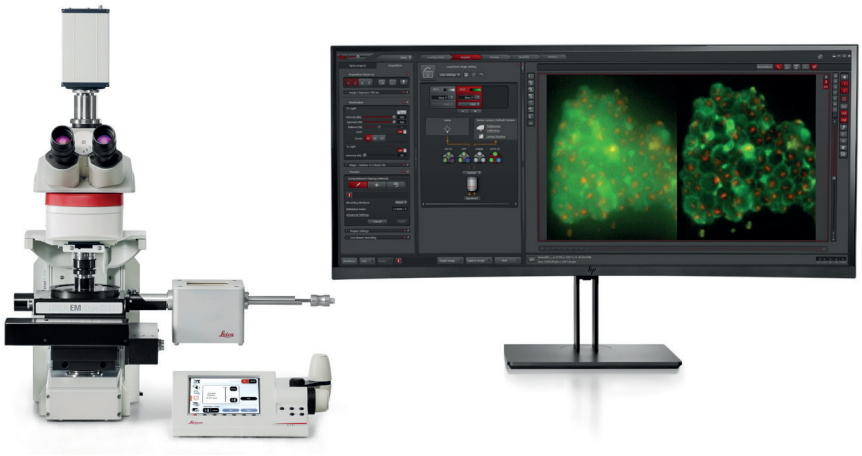
Working with the THUNDER Imager EM Cryo CLEM offers the following advantages:

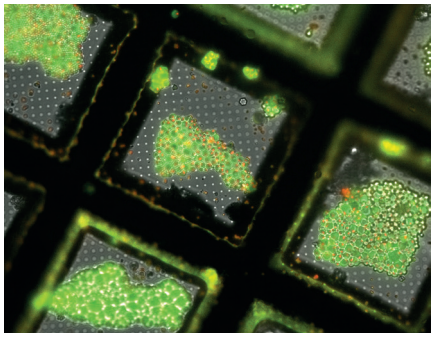
- Fast, high-resolution imaging and elimination of out-of-focus blur with THUNDER technology
- Seamless transfer of image data to different EM solutions
- Optimal cryo conditions maintained throughout the imaging workflow and sample transfer

The THUNDER Imager EM Cryo CLEM is part of the THUNDER family of imaging systems.

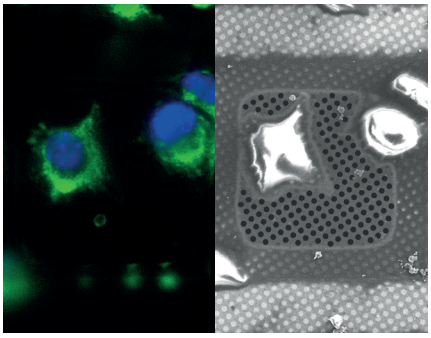


CEMOVIS cryosection ribbons of yeast cells overexpressing GFP-tagged alpha-synuclein. Scalebar: 50 µm. Top: without THUNDER, bottom: with THUNDER. Courtesy: Ashraf Al-Amoudi, C-CINA, Biozentrum, University Basel, Switzerland.





Cells of S. cerevisiae expressing the nucleolar marker NOP56::mars (red) and showing pronounced autofluorescence of the cell wall (green). Courtesy of Dr. Philipp Erdmann; stem created by F. Wilfling. Max-Planck-Institute for Biochemistry Martinsried, Germany.



A9 cells labeled with Alexa Fluor 488 Phalloidin marking fibrous actin (F-actin) and DAPI (blue) visualizing the nucleus. The exact same cell marked in the light microscope (left panel) can be retrieved in the FIB-SEM by coordinate transfer.

Loading of a grid cartridge into the THUNDER Imager EM Cryo CLEM using the transfer shuttle

Clear identification & imaging of your region of interest

For optimal visualization of cellular structures, the THUNDER Imager EM Cryo CLEM combines a high-resolution cryo objective with THUNDER technology. THUNDER employs the innovative Leica method of Computational Clearing for removal of the out-of-focus blur that can occur with widefield observation.

Easy retrieval with coordinate transfer

The integrated software guides you through your imaging workflow, then exports the original image data and associated coordinates with just one click. You can immediately relocate the cellular target region in your preferred electron microscope and begin your investigation of the specimen ultrastructure.

Cryo conditions maintained

To maximize the probability of a successful experimental outcome, the unique cartridge system and closed cryo stage ensure your specimen remains vitrified. This system minimizes the potential for contamination during the loading and transfer process and even during long-term image recordings.

Choose the appropriate workflow to your biological study

The THUNDER Imager EM Cryo CLEM is a flexible multi-purpose solution that can be implemented into different electron microscope workflows. Choose your preferred workflow for analysis of protein structures within their native cellular environment:

- Analysis of vitrified sections (CEMOVIS)
- Integrated targeted on-grid lamellae preparation with the Aquilos cryo-FIB SEM (Thermo Fisher Scientific) and cryo tomography
- Targeted on-grid lamellae with our vacuum transfer system EM VCT500 to other FIB-SEM suppliers

CONNECT WITH US!

Leica Microsystems GmbH | Hernalser Hauptstrasse 219 | A-1170 Vienna (Austria)

Tel. +43 (1) 48899

www.leica-microsystems.com/thunder