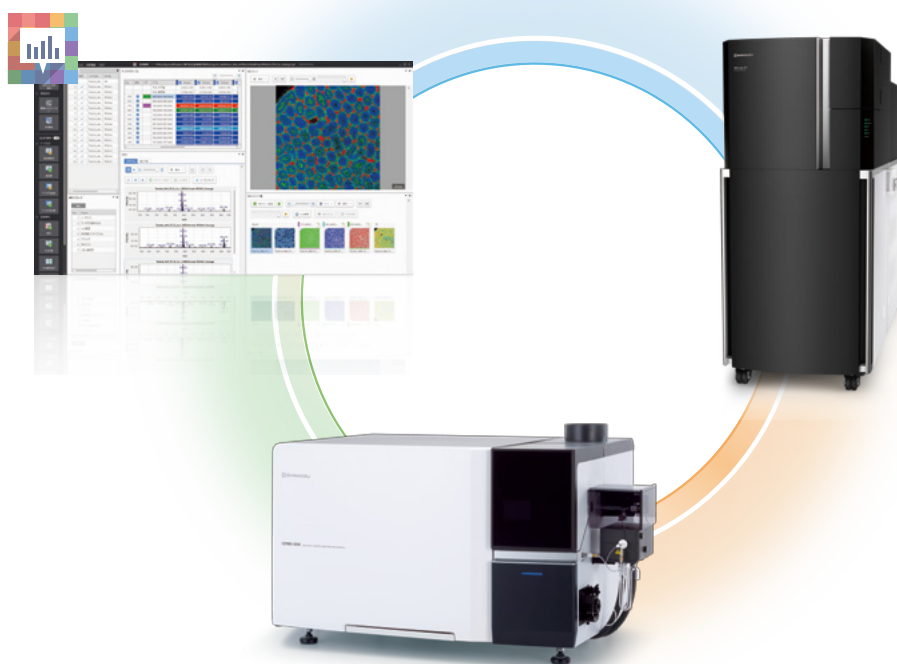
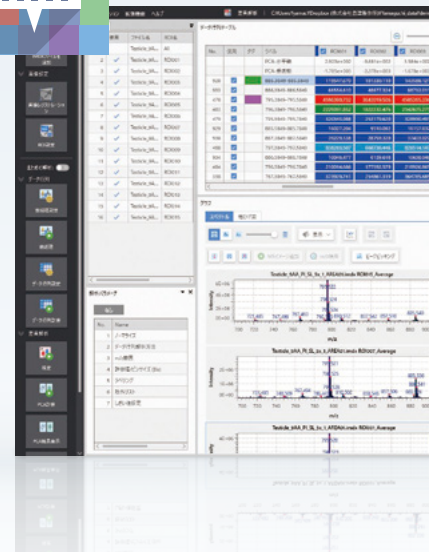


Multimodal Imaging System



Shimadzu Multimodal Imaging System

Molecular Imaging



Imaging Mass Microscope iMScope™ QT

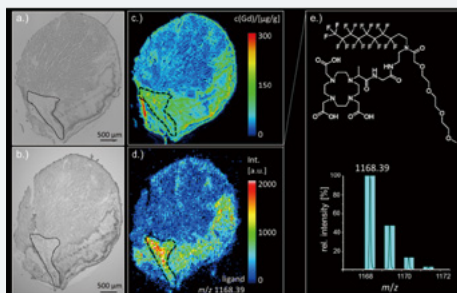
An atmospheric pressure MALDI-MS imaging system equipped with a high-resolution optical microscope. When combined with an LCMS Q-TOF mass spectrometer, the microscope acquires high spatial resolution and highly accurate MS images within a few hours the time of previous methods. The ability to attach and detach the LCMS Q-TOF allows the user to switch between acquiring positional information by mass spectrometry imaging and acquiring qualitative and quantitative information by LC/MS analysis.

Mass Spectrometry Imaging Data Analysis Software IMAGEREVEAL™ MS

Mass spectrometry imaging data analysis software developed based on the concept of advanced functionality in a simple process. Uses simple procedures to analyze mass spectrometry imaging data and comes with several multivariate analysis functions that facilitate data analysis from a variety of perspectives with minimal time and effort. Analytical throughput is also improved due to support for large data sets and simultaneous analysis of multiple data sets.

Data Examples

Imaging of Gadolinium Contrast Medium in Mouse Cardiac Tissue

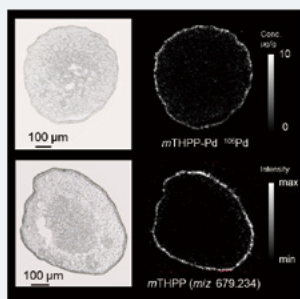


The gadolinium contrast medium Gadofluorine P exhibits a high affinity for the collagen-rich extracellular matrix secreted in cases of myocardial infarction. Gadofluorine P was administered to a myocardial infarction model mouse and the distribution of Gadofluorine P in mouse cardiac tissue was observed. Elemental imaging of gadolinium in the contrast medium was performed by LA-ICP-MS (top) and iMScope was used for molecular imaging of molecules with the same structure as Gadofluorine P (bottom). Combining these two imaging techniques enabled visualization of gadolinium contrast medium distributed in the cardiac tissue of the myocardial infarction model mouse.

MALDI-MS molecular imaging data and LA-ICP-MS elemental imaging data can be analyzed using a single software solution. That makes multimodal imaging more accessible.



Imaging of Photosensitizer in a Tumor Spheroid



5,10,15,20-Tetrakis(3-hydroxyphenyl)porphyrin (mTHPP) is a photosensitizer used in photodynamic therapy, a type of cancer treatment. A tumor spheroid derived from HT-29 human colonic adenocarcinoma cells was separately immersed in mTHPP and mTHPP-Pd (mTHPP labeled with metallic palladium) and the distribution of mTHPP and mTHPP-Pd in the tumor spheroid was observed. Elemental imaging of palladium by LA-ICP-MS (top) and molecular imaging of mTHPP with iMScope (bottom) show the same distribution of mTHPP and mTHPP-Pd. Elemental imaging by LA-ICP-MS provides quantitative information in addition to the elemental distribution.

Please refer to the catalogs below for more information about each product.

● iMScope QT Imaging Mass Microscope	C146-E415
● LCMS-9030 High-Performance Liquid Chromatograph Mass Spectrometer	C146-E365
● LCMS-9050 High-Performance Liquid Chromatograph Mass Spectrometer	C146-E462
● IMAGEREVEAL MS Mass Spectrometry Imaging Data Analysis Software	C146-E400
● ICPMS-2040 Series / ICPMS-2050 Series ICP Mass Spectrometer	C113-E031

A 30-day trial version of IMAGEREVEAL MS with all functions is available for download by clicking the button.

Demonstration software download 

Operating environment

OS	Windows® 11 Professional 64 bit English/Japanese
CPU	Intel® Core™ i7 or higher, or Intel® Xeon®
Memory	128 GB
Storage	The software uses both data files and temporary data storage. Storage equivalent to at least 5 times the size of the file being processed is required.

For more details about recommended PC specifications, please contact your local sales engineer.

Compatible formats

It is possible to convert from iMScope data files in kbd format, from the general MS imaging formats imzML or Analyze7.5, and from Thermo Fisher Scientific's data files in RAW, to the imdx format that can be read by IMAGEREVEAL MS.

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