

Resource Summary Report

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National Resource for Imaging Mass Spectrometry

RRID:SCR_001416

Type: Tool

Proper Citation

National Resource for Imaging Mass Spectrometry (RRID:SCR_001416)

Resource Information

URL: <http://www.nrims.harvard.edu/>

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Description: Biomedical technology research center with the focus on the application to biomedical research of a new generation of secondary ion mass spectrometer (SIMS), the Multi-Isotope Imaging Mass Spectrometer (MIMS). MIMS is an ion microscope and an ion counter. MIMS provides high mass separation at high transmission ($M/\lambda M > 10,000$), high spatial resolution (40 nm) and has the unique capability of simultaneously recording several atomic mass images. Of the utmost importance, MIMS makes it possible for the first time (and at the intracellular level) to simultaneously image the distribution and measure the accumulation of molecules labeled with any isotopes, in particular with stable isotopes, for example with ^{15}N . Thus, MIMS allows one to study localization, accumulation and turnover of proteins, fats, sugars and foreign molecules in cellular microdomains, donor-receiver cellular trafficking, stem cell nesting and localization of drugs. Their aim is to be a technological, methodological, and intellectual resource for researchers from a variety of disciplines. They seek to explore and develop the unique capabilities of MIMS and to bring cutting-edge information to biology and medicine that is currently unobtainable using existing technologies.

Abbreviations: NRIMS

Resource Type: biomedical technology research center, training resource

Keywords: mass spectrometer, mass spectrometry, ion microscope, ion counter, imaging, ion, molecule

Funding: NIBIB P41 EB001974-13

Resource Name: National Resource for Imaging Mass Spectrometry

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Alternate IDs: nlx_152638

Record Creation Time: 20220129T080207+0000

Record Last Update: 20260905T133321+0000

Ratings and Alerts

No rating or validation information has been found for National Resource for Imaging Mass Spectrometry.

No alerts have been found for National Resource for Imaging Mass Spectrometry.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 7 mentions in open access literature.

Listed below are recent publications. The full list is available at [Kravitz](#) .

Bomba-Warczak EK, et al. (2024) Exceptional longevity of mammalian ovarian and oocyte macromolecules throughout the reproductive lifespan. eLife, 13.

Lopez-Adams R, et al. (2021) Dissimilatory Fe(III) Reduction Controls on Arsenic Mobilization: A Combined Biogeochemical and NanoSIMS Imaging Approach. Frontiers in microbiology, 12, 640734.

Cabin-Flaman A, et al. (2016) Combining combining and secondary ion mass spectrometry to study DNA on chips using (13)C and (15)N labeling. F1000Research, 5, 1437.

Kaiser C, et al. (2015) Exploring the transfer of recent plant photosynthates to soil microbes: mycorrhizal pathway vs direct root exudation. The New phytologist, 205(4), 1537.

Lo CS, et al. (2015) Overexpression of heterogeneous nuclear ribonucleoprotein F stimulates renal Ace-2 gene expression and prevents TGF-??1-induced kidney injury in a mouse model of diabetes. Diabetologia, 58(10), 2443.

Goulbourne CN, et al. (2014) The GPIHBP1-LPL complex is responsible for the margination of triglyceride-rich lipoproteins in capillaries. Cell metabolism, 19(5), 849.

Baboo S, et al. (2014) Most human proteins made in both nucleus and cytoplasm turn over within minutes. PloS one, 9(6), e99346.