

Resource Summary Report

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Massachusetts Institute of Technology Swanson Biotechnology Center Nanotechnology Materials Core Facility

RRID:SCR_018674

Type: Tool

Proper Citation

Massachusetts Institute of Technology Swanson Biotechnology Center Nanotechnology Materials Core Facility (RRID:SCR_018674)

Resource Information

URL: <https://ki.mit.edu/sbc/nanocore>

Proper Citation: Massachusetts Institute of Technology Swanson Biotechnology Center Nanotechnology Materials Core Facility (RRID:SCR_018674)

Description: Provides instruments for materials and nanomaterials research and full service TEM and cryoTEM sample preparation and imaging. Conducts CLEM and cryoCLEM workflows utilizing cryoFluorescence, cryoSEM and cryoFIB with focus on bio samples. Provides equipment and expertise to work with nanomaterials for characterization and imaging purpose. Core imaging capabilities include high performance field emission transmission electron microscope equipped with STEM, EELS, EDS and cryo-imaging, high performance field emission scanning electron microscope and focused ion beam equipped with STEM and cryo-imaging, cryo-fluorescent confocal microscope for CLEM workflows, and atomic force microscope equipped with liquid cell. Instrumentation for material characterization includes high throughput dynamic light scattering, nanoparticle sizing and counting, and rheometry.

Synonyms: Bio and CryoEM in the Nanotechnology Materials Core

Resource Type: access service resource, core facility, service resource

Keywords: USEDit, material research, nanomaterial, cryo imaging, cryo fluorescent confocal microscope, cryoSEM, cryoFIB, imaging, electron microscope, atomic force microscope, light scattering, nanoparticle sizing, rheometry, ABRF, ABRF

Funding: NCI P30 CA14051

Availability: Open

Resource Name: Massachusetts Institute of Technology Swanson Biotechnology Center Nanotechnology Materials Core Facility

Resource ID: SCR_018674

Alternate IDs: ABRF_767

Alternate URLs: <https://coremarketplace.org/?FacilityID=767>,
<https://ki.mit.edu/sbc/nanocore/fees>

Record Creation Time: 20220129T080341+0000

Record Last Update: 20260728T043546+0000

Ratings and Alerts

No rating or validation information has been found for Massachusetts Institute of Technology Swanson Biotechnology Center Nanotechnology Materials Core Facility.

No alerts have been found for Massachusetts Institute of Technology Swanson Biotechnology Center Nanotechnology Materials Core Facility.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 27 mentions in open access literature.

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

Zhang L, et al. (2025) Polyanhydride-Based Microparticles for Programmable Pulsatile Release of Diphtheria Toxoid (DT) for Single-Injection Self-Boosting Vaccines. Advanced materials (Deerfield Beach, Fla.), 37(32), e2501168.

Wu Y, et al. (2025) Biophysical and molecular mechanisms responsible for phytoplankton sinking in response to starvation. bioRxiv : the preprint server for biology.

Isaac I, et al. (2025) Reengineering Endogenous Targeting Lipid Nanoparticles (ENDO) for Systemic Delivery of mRNA to Pancreas. Advanced materials (Deerfield Beach, Fla.), e2507657.

Wu Y, et al. (2025) Diverse biophysical and molecular mechanisms drive phytoplankton sinking in response to starvation. PLoS biology, 23(11), e3003508.

Han J, et al. (2025) On-patient medical record and mRNA therapeutics using intradermal microneedles. Nature materials, 24(5), 794.

- Wu W, et al. (2025) Plasma membrane folding enables constant surface area-to-volume ratio in growing mammalian cells. *Current biology : CB*, 35(7), 1601.
- Isaac I, et al. (2025) Endogenous Corticosteroid Derived Lipid Nanoparticles (Cortico LNPs) Enable Selective mRNA Delivery to the Spleen. *Small (Weinheim an der Bergstrasse, Germany)*, 21(36), e03034.
- Tappan BA, et al. (2025) Investigation of Charge Transfer Kinetics in Multilayer PEO/LLZO Solid-State Batteries. *ACS applied materials & interfaces*, 17(12), 18255.
- Zhang L, et al. (2025) Degradable poly(??-amino ester) microparticles for cleansing products and food fortification. *Nature chemical engineering*, 2(1), 77.
- Kishimori R, et al. (2025) Impact of x rays on the sensitivity of CR-39 detectors to 2.4-MeV protons. *The Review of scientific instruments*, 96(7).
- Alsaiani SK, et al. (2024) Zeolitic imidazolate frameworks activate endosomal Toll-like receptors and potentiate immunogenicity of SARS-CoV-2 spike protein trimer. *Science advances*, 10(10), ead6380.
- Tomasello DL, et al. (2024) Mitochondrial dysfunction and increased reactive oxygen species production in MECP2 mutant astrocytes and their impact on neurons. *Scientific reports*, 14(1), 20565.
- Bu A, et al. (2024) Actuating Extracellular Matrices Decouple the Mechanical and Biochemical Effects of Muscle Contraction on Motor Neurons. *Advanced healthcare materials*, e2403712.
- Alonso-Matilla R, et al. (2024) Cell-intrinsic mechanical regulation of plasma membrane accumulation at the cytokinetic furrow. *Proceedings of the National Academy of Sciences of the United States of America*, 121(29), e2320769121.
- Wu W, et al. (2024) Constant surface area-to-volume ratio during cell growth as a design principle in mammalian cells. *bioRxiv : the preprint server for biology*.
- Kim YJ, et al. (2024) Magnetoelectric nanodiscs enable wireless transgene-free neuromodulation. *Nature nanotechnology*.
- Martin-Alonso C, et al. (2024) Priming agents transiently reduce the clearance of cell-free DNA to improve liquid biopsies. *Science (New York, N.Y.)*, 383(6680), eadf2341.
- Hartquist CM, et al. (2024) Reversible two-way tuning of thermal conductivity in an end-linked star-shaped thermoset. *Nature communications*, 15(1), 5590.
- Vander Straeten A, et al. (2024) A microneedle vaccine printer for thermostable COVID-19 mRNA vaccines. *Nature biotechnology*, 42(3), 510.
- Kanelli M, et al. (2024) A Machine Learning-Optimized System for Pulsatile, Photo- and Chemotherapeutic Treatment Using Near-Infrared Responsive MoS₂-Based Microparticles in a Breast Cancer Model. *ACS nano*, 18(44), 30433.