

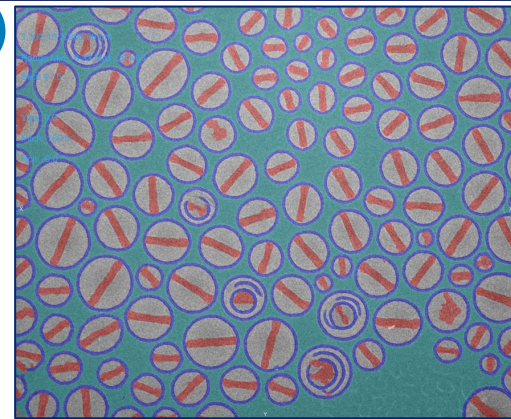
Office of Scientific Coordination

About the Office of Scientific Coordination (OSC)

Office Mission

Provide the professional support necessary to conduct toxicology studies that support FDA's and NCTR's research mission, to include:

- Analytical Chemistry
- Animal Care
- Equipment Maintenance and Repair
- Experimental Support
- Microbiological Surveillance
- Nanotechnology
- Pathology Services
- Statistics
- Veterinary Services



Cryo-Transmission Electron Microscopy (TEM) image of liposomes

OSC Research and Support Services

Analytical Chemistry

Analytical chemistry research and support are conducted using trained staff and state-of-the-art instrumentation for processing of a wide range of samples. Test articles and their metabolites are assayed in blood, tissues, or urine to provide measures of exposure, and DNA adducts are measured for genotoxic compounds. The following ensure the high quality of studies at NCTR: 1) verification of test-article identity and purity, 2) certification of concentration and stability of test articles in dosing solutions and vehicles, and 3) surveillance of animal study materials (bedding, water, and diet) performed routinely.



Animal Care

NCTR maintains an on-site contract for animal care services. The contractor provides trained and proficient staff to perform the tasks necessary for in-life study support including husbandry, environmental enrichment of all animals, formulation and administration of test articles, sample collection, and data collection. The contractor works with the NCTR veterinarians and the Institutional Animal Care and Use Committee (IACUC) to ensure the health and welfare of the animals.

Equipment Maintenance and Repair

NCTR maintains a contract for equipment maintenance and repair that supports the routine preventative maintenance and calibration of equipment, manufacture of minor equipment to support customized research needs, and repair of equipment that is not on a service agreement with the manufacturer.

Experimental Support

Experimental Support staff provides computer-based support for animal studies. The staff reviews study protocols and works with research and support staff to enter study parameters in the animal data collection system, reviews data, and generates reports at the conclusion of the study.



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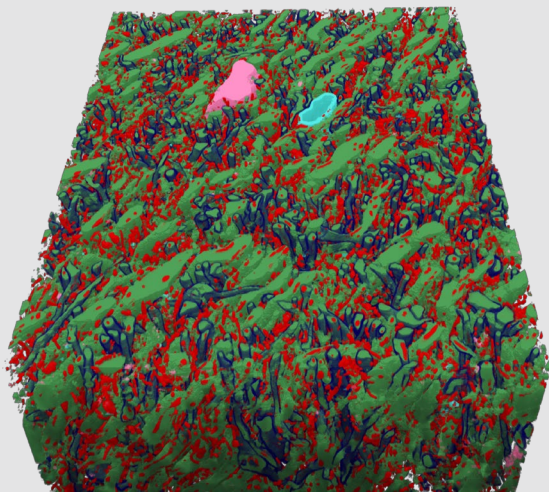
OSC Research and Support Services

Microbiological Surveillance

The Microbiological Surveillance Laboratory staff ensures the research animals, environment, food, bedding, and test articles are free from opportunistic pathogens and supports personnel health by routinely monitoring the microbiological quality of NCTR drinking water and environmental samples. The staff provides accurate and timely identification and characterization of microbes using advanced technologies including biochemical metabolism, MALDI-TOF mass spectrometry, and next-generation sequencing. The laboratory staff also supports other microbiology-related research studies from all NCTR research divisions.

Nanotechnology

The NCTR/ORA Nanotechnology Core Facility (Nanocore) supports collaborative nanotechnology research within FDA and research between FDA and other government agencies and universities. This facility is well-equipped with advanced analytical equipment, including electron, atomic force and optical microscopy; scattering; diffraction; spectroscopy; fractionation; chromatography; and elemental analysis facilities for nanomaterial assessment. Laboratories are equipped for in vitro and in vivo biological studies. Nanocore research provides information on nanomaterial characterization and the safety of products containing nanomaterials in FDA-regulated products. This research data is also used in staff and reviewer training and in establishing standards for use by stakeholders developing nanotechnology products.



Serial Electron Microscopic Analysis of the Hippocampus from an Alzheimer Transgenic Rat

Pathology Services

NCTR maintains an on-site pathology contract for veterinary pathology and histopathology services. Three veterinary pathologists and a highly trained staff provide NCTR with services including clinical pathology, histopathology slide preparation, rigorous pathology examination, and complete histopathology and pathology reports.

Statistics

The Statistical Support staff provides traditional statistical support for the various toxicity studies conducted at NCTR. The services provided include statistical consultation during protocol development, statistical randomization, statistical analysis, and statistical reporting.

Veterinary Services

Veterinary Services staff plays a key role in the research at NCTR, ensuring the health and welfare of all animals used in research. The veterinarians participate in the review and monitoring of animal use through the IACUC. They participate in the research by advising study scientists regarding study design, performing surgery on animals, and monitoring the overall health of the animal program. Veterinary Services also includes the Microbiological Surveillance support staff. This facility has been accredited by the Association for Assessment and Accreditation of Laboratory Animal Care International since 1977.

