



Member of Hackensack Meridian Health

Animal Model Core

Advanced Preclinical Services

For more information contact

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Our Animal Model Core Facilities provide state-of-the-art resources and expertise to support cutting-edge research in the field of animal modeling. Equipped with modern infrastructure and a highly skilled team, we offer comprehensive services for the generation, maintenance, and utilization of animal models for scientific investigations.

Key Features:



Animal Housing and Care: We maintain meticulously controlled environments to ensure the health and well-being of research animals, complying with ethical and regulatory standards

Breeding and Genetic Manipulation: Our facilities offer specialized breeding programs, including transgenic and knockout models, enabling researchers to study specific genetic modifications and disease models.



Experimental Procedures: We provide technical assistance and training for various experimental procedures, such as surgical interventions, drug administration, behavioral testing, and sample collection.

Veterinary Support: Our experienced veterinary team ensures animal health monitoring, disease prevention, and veterinary care, ensuring the highest standards of animal welfare.



Model Characterization: We assist researchers in the phenotypic characterization of animal models through advanced imaging techniques, molecular analysis, and functional assessments.

Data Management: We offer secure and efficient data management systems, ensuring organized and accessible records of animal models, experimental protocols, and results.

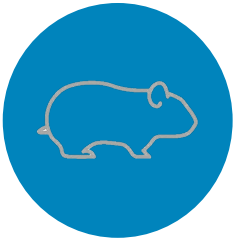


Collaborative Support: Our dedicated staff collaborates with researchers, offering guidance and expertise in experimental design, animal model selection, and implementation strategies.

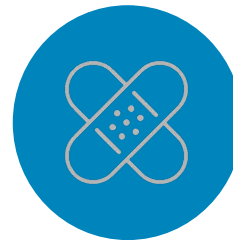
Animal Models for Drug Screening



*Mouse infectious disease models
(Viral, Bacterial and fungal models: details in next page)*



Hamster and rabbit infectious disease models



Rodent Wound and Cancer Models

CAPABILITIES

- Operate in ABL-2 and ABSL-3
- Complete preclinical study management
- Conduct of preclinical pharmacology and efficacy studies including:
 - Rapid assessment of the efficacy of candidate microbials targeted against high threat pathogens
 - Pharmacokinetic and pharmacodynamic studies conducted alongside the Pharmacology Core
 - Infection and test article administration routes: intravenous, intraperitoneal, subcutaneous, oral, inhalation (intratracheal instillation and aerosol)
 - Ex vivo assays: TCID₅₀, PFU, CFU, qRT-PCR
 - Histopathology
 - Advanced preclinical imaging assays

Viral Models	Fungal models	Bacterial models
Hamsters, Mice	Mice, Rats	Rabbits, Mice
SARS-CoV-2: Transgenic K18-hACE2 Outbred Golden Syrian hamster MERS CoV: Transgenic K18-Hdpp4 mouse Knock -in hDPP4 mouse	Sepsis GI colonization Neutropenic outbred CD-1	Acute infection Chronic infection
Coronaviruses: <i>SARS CoV-2 Variants of concern</i> •SARS CoV-2 WA/USA/2020 •Omicron B1.1.529 •Omicron BA.2 •XBB •XBB1.5 <i>MERS CoV</i> •MERS CoV strain EMC/2012 •Mouse -adapted MERS	• <i>Candida albicans</i> • <i>Candida glabrata</i> • <i>Candida parapsilosis</i>	• <i>Mycobacterium tuberculosis</i> •NTMs • <i>Enterococcus aureus</i> • <i>Staphylococcus aureus</i> • <i>Klebsiella pneumoniae</i> • <i>Acinetobacter baumannii</i> • <i>Pseudomonas aeruginosa</i> • <i>Enterobacter</i>
ABSL-3	ABSL-2	ABSL-2, ABSL-3
Read outs In-life: body weight, survival, clinical signs Burdens (viral, fungal, bacterial): TCID50, PFU, qRT-PCR, CFU PK profile Histopathology		

Research Animal Facility (RAF)

The CDI Research Animal Facility (RAF) is an AAALAC accredited facility that supports the cutting-edge scientific research of CDI, The Hackensack Meridian School of Medicine (HMSOM), and Georgetown Lombardi Comprehensive Cancer Center (LCCC) Research Consortium faculty, as well as biotech and pharma collaborators through state-of-the-art infrastructure and technology. Our animal care and use program is managed by highly qualified and experienced veterinarians, animal care technicians, and support staff committed to maintaining the health and welfare of the research animal population.

Features:

- Individually ventilated rodent housing systems
- High-Containment Facility includes 3,000 GSF of ABSL-3 space - including rodent aerosol delivery suite
- Irradiator suite
- Advanced preclinical imaging including micro-ultra sound (Vevo 3100), multi-modal optical (fluorescence, bioluminescence, x-ray; Bruker Biospin)
- Six (6) advanced procedure rooms

Contact Us for More Information

The Animal Model Core also provides consultation to investigators on in vivo study design, model development and characterization, procedure optimization and refinement, and the selection of clinically relevant readouts.

Faculty or industry scientists interested in using the Animal Model Core can contact Dr. Nelson (AndrewM.Nelson@hmh-cdi.org).