

DHM | RI

David H. Murdock Research Institute



DAVID H. MURDOCK CORE LABORATORY BUILDING



BRUKER 950 MHZ NMR SPECTROMETER

Who We Are

Located at the heart of the North Carolina Research Campus (NCRC), the David H. Murdock Research Institute (DHMRI) bridges the research gap between academia and industry by providing analytical solutions in a customer-based, yet collaborative environment.

We are a 501(c)3 life sciences contract research organization established by David H. Murdock that promotes public/private research and development opportunities in agriculture, nutrition, and human health. Working with our partners, we create innovative solutions for improving humankind.

By leveraging state-of-the-art research technologies and integrated approaches, we provide robust, customer-focused solutions to scientists from academia, government, and industry in the growing life sciences field.

Mission & Vision

DHMRI was founded on the principle that access to expertise and state-of-the-art capabilities would drive research innovation and advance the transition of discoveries from research laboratories to commercial markets.

Critical Research Capabilities

DHMRI leverages capabilities and expertise across a wide spectrum of scientific disciplines to move R&D work from bench to proof of concept. Disciplines include immunology, cell and in-vivo biology, as well as several scientific platforms consisting of genomics, metabolomics, proteomics, chemistry, and bioinformatics. Examples of areas of high interest include:

In Vitro Sciences where capabilities involve: integrated cellular profiling, biochemistry, and gene expression analysis for preclinical and clinical studies. Services offered include assay development, validation, as well as production.

Genomic Sciences provides critical support of studies involving genotyping, expression analysis, epigenetics, and de novo genome sequencing and resequencing applications for a wide range of projects involving plants, animals, and humans.

Analytical Sciences supports studies ranging from biomarker sciences to compound analyses including discovery, quantitation, validation, and characterization. Key platforms include: proteomics, metabolomics, analytical chemistry, and protein structure-based solutions using NMR spectroscopy.

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KEY INSTRUMENTATION

DHMRI is home to a host of progressive instrumentation and equally matched expertise. We offer opportunities for collaboration with other researchers, mobile lab stations for easy expansion, and the potential for walk up access.

Laboratory instrumentation includes:

- A suite of Bruker Nuclear Magnetic Resonance spectrometers, including the 700 and 950 MHz NMR instrumentation
- A comprehensive set of Carl Zeiss Microimaging light and confocal microscopes
- A wide assortment of genomic, proteomic, and metabolomic technology, including next generation sequencing and multiple mass spectrometry platforms

Areas of Expertise

DHMRI provides the flexibility and adaptability to create client-oriented solutions to complex biological problems in the areas of:

•Food and agriculture

Efforts focus on improving the discovery of critical traits that will help improve the predictability of plant breeding by providing access to multi-platform molecular profiling of a variety of species. Related applications include natural products and bioactive nutraceuticals.

•Nutrition and health

Research focuses on monitoring the physiological and molecular responses to exercise and nutrition. Information gathered from studies is used to better understand the impact of genetics and the environment at an individual level. This includes how nutrition impacts each stage of development, from prenatal to adulthood.

•Therapeutics and diagnostics

As medicine becomes more personalized, DHMRI supports the translational research path from bench to bedside. We offer the expertise and capabilities to support studies ranging from biomarker discovery to detailed characterization at the in-vitro, in-vivo, and clinical levels.

•Customized analytical solutions

DHMRI is able to apply a range of expertise and analytical systems to identify creative solutions; thereby taking a multifaceted approach to answer complex problems.

DAVID H. MURDOCK

Mr. Murdock is the visionary behind the NCRC and its centerpiece, DHMRI. As majority stock holder and chairman of Dole Food Company, Inc., David Murdock has been a long-term advocate of nutrition and its links to the longevity of healthy human life. After realizing the great potential of biotechnology to cure disease and improve health, Mr. Murdock dedicated his resources to developing the campus. Together with his vision and a powerhouse of expertise, DHMRI continues to grow into a world class research facility.

