

Core Facilities and Service Centers

Research Service Centers/Core Facilities

To assist researchers in basic, translational and clinical research, UNMC provides extensive Core Facilities on campus. A [directory of core facilities/service centers](#) has been made available.

In addition to institutional core facilities, many Centers and Major Programs also include specialized cores or service centers, a list of programs and centers can be found at unmc.edu/vcr/about/centers.

Research Information Technology Office (RITO)

Where do I find Information Technology support for research on campus?

The Research Information Technology Office (RITO) is available to meet the growing IT needs of researchers. The discrete functions this office provides are: infrastructure; application development and programming; data management and storage; information security; research grant technical support; support for research resources; and core facilities on campus.

Some institutionally funded software available to researchers:

- Research Electronic Data Capture (REDCap) software, an open-source clinical research management tool provides audit trails for tracking data manipulation and user activity, as well as automated export procedures for data downloads to Excel, PDF, and common statistical packages (SPSS, SAS, Stata, R). Contact RITO for more information.
- Freezerworks® for biobanking. This NCI-approved and compatible software is available for biologic samples. Contact RITO for more information.
- Systems Biology analysis software. See the [Bioinformatics and Systems Biology Core Facility](#) website.

Research Data Storage

The Research IT Office (RITO) oversees research data storage. RITO provides 25GB of Enterprise HIPAA Compliant data storage for all research faculty (including their laboratory personnel) at no charge. Additional secure storage can be purchased if necessary. A number of options are available depending on whether protected health information is included or not. Contact the RITO Director to discuss your [data storage needs](#).

General Supply facilitates the storage of hard copies of research data, particularly Clinical Study Documents and Binders. Contact General Supply for current pricing.

Biosafety Facilities

Biosafety level laboratories (BSL) are designated by the Centers for Disease Control and Prevention (CDC) based on the biocontainment precautions required to isolate biological agents such as bacteria, parasites and viruses. Laboratory facilities are available for work with infectious agents, as well as with animals.

What is the difference between BSL-2 and BSL-3 facilities?

Biosafety Level 2 (BSL-2) is suitable for work involving agents that pose moderate hazards to personnel and the environment. It differs from BSL-1 in that: 1) laboratory personnel have specific training in handling pathogenic agents and are supervised by scientists competent in handling infectious agents and associated procedures; 2) access to the laboratory is restricted when work is being conducted; and 3) all procedures in which infectious aerosols or splashes may be created are conducted in biological safety cabinets or other physical containment equipment.

Biosafety Level 3 (BSL-3) is applicable to clinical, diagnostic, teaching, research, or production facilities where work is performed with indigenous or exotic agents that may cause serious or potentially lethal disease through inhalation exposure. Laboratory personnel must receive specific training in handling pathogenic and potentially lethal agents, and must be supervised by scientists competent in handling infectious agents and associated procedures. BSL-3 facilities at UNMC must be certified by the campus Biosafety Officer before first use and inspected annually.

Where are the BSL-2 facilities at UNMC?

All laboratories in the Durham Research Center (DRC) towers are constructed to BSL 2 standards. Laboratories and personnel working with BSL-2 agents must pass annual safety training and have completed the [Biosafety compliance inspection checklist](#).

Does UNMC have BSL-3 facilities?

Yes. The Department of Pathology and Microbiology manages biosafety level 3 (BSL-3) containment laboratories on the UNMC campus. Information regarding the BSL-3 laboratories and their use can be obtained by contacting the campus Biosafety Officer at 402-559-7774.

The Department of Pharmacology and Experimental Neuroscience manages a suite of containment laboratories. Although these laboratories are designed as BSL-3, they are currently being used for HIV-1 research as BSL-2 laboratories where BSL-3 practices are followed. These laboratories have restricted access but are available to approved faculty.

To gain access to this facility, you must meet the following requirements:

- Have direct approval from the Chair of the Department of Pharmacology & Experimental Neuroscience
- Review and successfully pass the Institutional Biosafety Web-based examinations for General Biosafety and BSL-3 Containment.

Once approved access, the researcher's ID card is programmed into the security system by personnel in the Security Department.

Entering the anteroom will require the use of a proximity card and a four digit passcode.

For more information, visit the [Biosafety Level III website](#).

Animal BSL-2 and 3 facilities.

Animal biosafety level 2 and 3 (ABSL-2 and 3) facilities are available and managed by Comparative Medicine. For additional information about the use of this facility contact the Safety/Compliance Coordinator for Comparative Medicine at 402-559-4034.

Biologics Production Facility

What is the Biologics Production Facility?

The Biologics Production Facility (BPF) is designed to support scientific and clinical investigators in developing and testing the most promising new medical therapies through the manufacturing, production, and modification of cells, tissues, and cellular and tissue-derived products. The facility is jointly operated by Nebraska Medicine and UNMC.

The Biologics Production Facility meets Good Manufacturing Practice (GMP) and Good Tissue Practice (GTP) regulations, which provide investigators with the environmental controls, quality management, and security required for the manufacture of drugs, vaccines and human cells,

tissues, and cellular and tissue-based products (HCT/Ps) for medical therapy purposes.

The [application to use the Biologics Production Facility](#) is available online.

More information is available on their website, in addition to a [virtual tour of the facility](#)

Contact the facility manager at 402-559-6009.

What are the uses of the Biologics Production Facility?

The BPF currently focuses on four promising areas of therapeutic medicine: stem cell collection and processing, cellular-based vaccines and therapies, tissue-based therapies, and regenerative medicine therapies, in addition to the new and emerging field of nanomedicine.

What must I do to work with the Biologics Production Facility?

To apply to conduct a project at this facility, you must [complete an application form](#) describing your project, including its status related to required Investigational New Drug (IND) submission or IRB approvals, funding sources, whether Nebraska Medicine patients will be included in the study, whether potentially toxic materials are involved, and the types of manufacturing steps involved.

Center for Drug Delivery and Nanomedicine (CDDN)

What is the CDDN?

The Center for Drug Delivery and Nanomedicine (CDDN) unifies existing diverse technical and scientific expertise in biomedical and material science research at the University of Nebraska, creating a world-class interdisciplinary drug delivery and nanomedicine program. The CDDN integrates established expertise in drug delivery, gene therapy, neuroscience, pathology, immunology, pharmacology, vaccine therapy, cancer biology, polymer science and nanotechnology at the University of Nebraska Medical Center (UNMC), the University of Nebraska at Lincoln (UNL) and Creighton University.

What research expertise is available within the CDDN?

The [Nanomaterials Characterization Core Facility](#) provides investigators with state-of-the-art equipment, expertise and custom services for comprehensive study of polymers and nanomaterials.
