



Microbial Fermentation Pilot Plant

The Microbial Fermentation Pilot Plant is home to a multidisciplinary team of microbiologists, engineers, chemists and biochemists attuned to the biotech industry's needs. They take special care to design bioprocesses that can be smoothly transferred to industrial settings. Areas of expertise include molecular biology, microbial physiology, bioprocess development, optimization and scale-up, primary recovery and product purification, endotoxin removal, process control and biomonitoring, and production of GLP-quality material.

Helping SMEs convert lab results into cGMP-compatible processes

As an R&D pilot plant, our facility offers flexibility, versatility and a broad range of equipment to rapidly convert laboratory results into industrial processes up to the 1500 L scale. While we work with firms of all sizes, these resources make us an especially attractive partner for small- and medium sized enterprises (SMEs), who have limited capacity to invest in pilot-scale facilities compatible with current Good Manufacturing Processes (cGMP).

What we offer

Services:

- Engineering and selection of recombinant Escherichia coli, Methylo-bacterium extorquens and yeast (Pichia; Saccharomyces) strains
- Production of peptides, proteins, nutraceuticals, organic acids, polymers, and probiotics
- Screening of media, microorganisms, cell lines, and cultivation conditions
- Bioprocess optimization
- Scale-up to 1500 L
- Handling of methanol-oxidizing microorganisms
- Testing of new monitoring/control equipment and reagents
- Purification and analytical services to support bioprocessing operations
- Technical and scientific guidance
- General or specialized training
- Documentation tailored to needs



Facility characteristics:

- Molecular biology laboratory
- CL-1 pilot plant with bioreactors up to 1500 L
- CL-2 laboratory with bioreactors up to 150 L
- CL-3 facility for cultivation of pathogens with bioreactors up to 30 L
- Various equipment for primary recovery, cell breakage and initial product capture
- Laboratories and equipment for small- and pilot-scale purification

- Micro- and small-scale parallel bioreactors for rapid process optimization
- Analytical laboratories for process monitoring and product characterization

Why work with us?

For more than 25 years, the NRC's Microbial Fermentation Pilot Plant has provided multi-disciplinary expertise in the development, optimization and scale-up of microbial fermentation processes, as well as the primary recovery, purification and characterization of microbial products.

The biotech industry and the research community routinely use our facility to:

- Produce preclinical material and research reagents
- Obtain engineering data on process performance
- Develop emerging processes into ones of use to industry
- Purify sizeable quantities of biotech products
- Train personnel in a semi-industrial setting
- Design new bioprocessing facilities and seek advice on equipment selection

Interested?

To access our advanced scientific infrastructure or to connect with our microbial fermentation experts, contact us today!



Modular bench-scale bioreactors for accelerated and integrated scale-up process development



Preparation of a 20 L bioreactor for a microbial fermentation

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