NC State University is dedicated to equality of opportunity. The University does not condone discrimination against students, employees, or applicants in any form. NC State commits itself to positive action to secure equal opportunity regardless of race, color, creed, national origin, religion, sex, age, or disability. In addition, NC State welcomes all persons without regard to sexual orientation.

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BTEC delivers customized bioprocess services and solutions

NC State University’s Golden LEAF Biomanufacturing Training and Education Center (BTEC) is helping to solve the industry’s toughest scientific problems. In addition to providing undergraduate, graduate and professional education and training, BTEC offers scientists from industry, government and academia access to its facilities, equipment and the expertise of its faculty and staff.

To answer needs for process development, analytical testing and development, and technology evaluation, BTEC is able to do the following:

• Collaborate on process development projects
• Enable technology development in a risk-free GMP environment (for example, testing prototypes of new products)
• Provide access to industry-standard equipment at a range of scales
• Furnish routine analytical testing services and
• Develop and validate analytical methods

The main BTEC facility contains approximately 63,000 square feet of state-of-the-art laboratories from bench to simulated-GMP pilot scale. The BTEC Annex provides an additional 5,000 square feet for viral and cell culture processes.

Upstream and downstream equipment includes:

• Bioreactors ranging from 2-L to 300-L scale, which can accommodate both fermentation and cell culture projects
• Disposable bioreactor systems for mammalian cell culture applications with volumes from 10 L to 250 L
• Both bench and pilot-scale high-pressure homogenizers, centrifuges, chromatography systems and tangential flow filtration systems for protein recovery and purification

In BTEC’s analytical lab, technologies include HPLC, UPLC, ELISA, gel electrophoresis, capillary electrophoresis, MALDI-TOF, LC-MS, GC-MS and quantitative PCR. BTEC also offers assay development and validation services. Typical tests performed include:

• Protein quantity and purity
• Protein characterization
• Spectral characterization
• MW determinations
• Host cell DNA contamination
• Microbial identification
• Amino acid analysis
• TOC analysis
• Endotoxin
• Bioburden
• Total protein

BTEC is also equipped with a host of support systems required for biomanufacturing, including buffer prep capabilities, process utilities including clean steam and high purity water, glasswashers and autoclaves.

The expertise of BTEC’s talented scientists, engineers and operations staff is just as impressive as our facilities and equipment. BTEC personnel involved with industry projects have wide-ranging experience—from GMP fermentation, cell culture and downstream operations to upstream and downstream process development and analytical development. Our scientists and staff have years of industrial experience with some of the largest biotechnology companies in the world.

To discuss how BTEC can provide services or solutions for your firm, call us today!

For more information

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