



BIOENGINEERING LABORATORY | BeL

The U.S. Army Edgewood Chemical Biological Center's (ECBC) Bioengineering Laboratory (BeL) is the only full spectrum biotechnology capability within the Department of Defense (DoD).

The BeL is a 20,000 square foot process engineering facility with fermentation ranging from 5L to 1500L, along with matching scale downstream protein separation, purification lyophilization and spray drying.

It is fully staffed for industrial scale production of high value proteins such as recombinant antibodies, as well as scale-up and optimization of biomanufacturing processes. The BeL was instrumental in the successful scale-up of the production of two enzymes discovered by ECBC scientists that successfully destroy nerve agents under mild conditions. These enzymes were subsequently patented and licensed to private industry and are now being manufactured and sold to assist the first responder community throughout the nation.



In addition to large scale biomanufacturing, the BeL houses a 1500 square foot class 10,000 cleanroom validated for biomanufacturing compliant with current Good Manufacturing Practices (cGMP). This cleanroom is designed for dual campaign operation, that is, simultaneous production runs of mammalian cell culture and bacterial fermentation at the 30L scale.

The BeL also houses a biosurety compliant, secure cryorepository and curates both the DoD's Critical Reagents for biodetection, and the American Type Culture Collection's original type cultures of Select Agents. The non-biosurety wing of the cryorepository has space for eight large liquid nitrogen freezers each capable of storing 25,000 samples. The BeL has two backup generators and a 1500 gal (~4 month) supply of liquid nitrogen.

Personnel working in the BeL have routinely trained FBI, Intelligence Community and military personnel in numerous aspects of biodefense and biotechnology and could contribute significantly to training first responders. The BeL currently provides biomanufacturing and other services to the military as well as private sector customers.

For more information, contact the
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