

# NATIONAL BIODEFENSE ANALYSIS AND COUNTERMEASURES CENTER (NBACC)



**Location:** National Interagency Biodefense Campus, Fort Detrick, MD

**Core Competencies:** Aerobiology; Safe, Secure and Compliant Biocontainment Operations; Bioforensics; Comparative Medicine; Quality Management; Genomics and Bioinformatics; and Broad Capabilities in Bacteriology, Virology, Toxinology

**Accreditations/Registrations:** ISO 17025 Quality (A2LA), CDC/USDA Select Agent for BSL-2, 3, and 4, AAALAC International, Institutional Biosafety Committee, Nuclear Regulatory Commission, Drug Enforcement Administration Controlled Substance, Alcohol and Tobacco Tax and Trade Bureau Industrial Alcohol User Permit

**Key Customers:** Law Enforcement, DHS and Homeland Security Enterprise Biodefense Stakeholders

NBACC is the first national laboratory created by the Department of Homeland Security. NBACC provides a continuously available national security biocontainment laboratory capability to address newly identified biological threats. NBACC's mission is to provide the scientific basis for the characterization of biological threats and bioforensic analysis to support attribution of their planned or actual use. NBACC components include the National Bioforensic Analysis Center (NBFAC) and the National Biological Threat Characterization Center (NBTC).

## NBACC Operations and Support

- Provides safe and compliant operations for more than 50,000 square feet of Bio Safety Level (BSL) 2, 3, and 4 laboratories, including continuous operational support to law enforcement.
- Maintains Centers for Disease Control and Prevention (CDC) and the U.S. Department of Agriculture (USDA) Biological Select Agent and Toxin Program compliant biosafety laboratories, including CDC/USDA inspections.
- Conducts a "Work for Others" program that makes the NBACC national security biocontainment capabilities more broadly available to federal agencies.

- Maintains Defense Security Service compliance.

## NBFAC Accomplishments

- From fiscal year (FY) 2011 to the first half of FY 2018, NBFAC supported 197 federal law enforcement investigations and analyzed more than 8,891 samples.
- NBFAC continues to provide 24/7, "Always Available" bioforensic analyses and support for traditional forensic analyses within biocontainment for federal law enforcement with "purpose built" bioforensic casework laboratories, dedicated and vetted technical staff, and ISO 17025 accredited processes and assays at BSL-1, 2, 3, and 4.
- NBFAC identifies and characterizes biological agents in evidentiary samples with simultaneous analyses using orthogonal agent based assays, which include bacterial and viral culture, polymerase chain reaction and immunoassays as well as methods-based capabilities that include genomics (whole genome sequencing and bioinformatics analysis), electron microscopy, and mass spectrometry (MS).
- In FY2018, ISO 17025 accredited human genotyping using next generation sequencing.
- NBFAC's agent and methods-based capabilities at BSL-1, 2, 3, and 4 provide flexibility in the identification and characterization of a wide range of biological agents that include traditional, non-traditional, emerging, genetically engineered, and synthetic biological agents.

## NBTC Accomplishments

- NBTC has provided timely and high quality data on the characteristics of biological threat agents and dual use technologies to inform DHS and HSE policy and decision-making before and in response to new biological threats.
- From fiscal year (FY) 2011 to the first half of FY 2018, NBTC has provided scientific data to address 85 traditional agent knowledge gaps to inform and improve both the understanding of biological hazards faced by the country and preparedness planning to mitigate the impact of a biological event on the homeland.
- In response to the largest Ebola outbreak recorded, Ebola stability and disinfection data critical to understanding the potential risk of the virus transmission through contaminated surfaces was used to inform decontamination methods, waste disposal practices, and risk assessments for first responders.

## Contact

Questions? Email [questions@nbacc.dhs.gov](mailto:questions@nbacc.dhs.gov) for more information.

