

BACKGROUND

The Department of Homeland Security (DHS) Science and Technology Directorate's (S&T) National Biodefense Analysis and Countermeasures Center (NBACC) is the first national laboratory created by DHS. Established in 2004, the lab operates in partnership with the Federal Bureau of Investigation (FBI) and is located at the National Interagency Biodefense Campus at Fort Detrick, Maryland. NBACC provides a one-of-a-kind biocontainment laboratory capability to address biological threats. NBACC's components include the National Bioforensic Analysis Center (NBFAC) and the National Biological Threat Characterization Center (NBTCC). NBACC's operating model is unique among S&T labs as a Federally Funded Research and Development Center operated by Battelle National Biodefense Institute (BNBI).

MISSION

Provide the scientific basis for the characterization of biological threats and bioforensic analysis to support attribution of their planned or actual use.

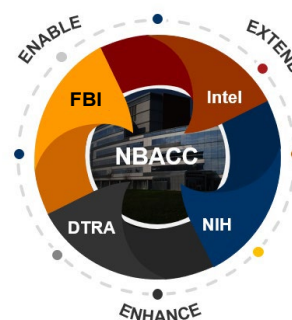
NBACC requires dedicated resources to maintain modern capabilities and strategic investment in its infrastructure to support the dynamic DHS and FBI missions. Its facilities are national security assets to DHS components, law enforcement, and first responders.

EXPERTISE

NBACC's infrastructure and subject matter experts provide the broader Homeland Security Enterprise (HSE):

- The only purpose-built maximum biocontainment laboratory to serve the DHS biodefense mission
- A national resource for 24/7 bioforensic support to federal law enforcement
- Over 50,000 square feet of lab space (BSL-2, 3, 4)
- One of only 13 BSL-4 labs in the United States, and the only one with a National Security focus
- Work for Others (WFO) program that makes NBACC national security capabilities available to federal agencies
- Unique expertise and capabilities in aerobiology, genomics, and bioinformatics

- Regulatory compliance with Diplomatic Security Service (DSS), Centers for Disease Control and Prevention (CDC)/U.S. Dept. of Agriculture (USDA) Biological Select Agents and Toxins (BSAT), Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF), Nuclear Resource Council (NRC), Drug Enforcement Administration (DEA), Department of Transportation (DOT), and Association for Assessment and Accreditation of Laboratory Animal Care International (AAALAC) oversight, as well as ISO 17025 accreditation of bioforensic methods and processes



NBACC's WFO Program allows interagency partners throughout the HSE to utilize NBACC's one-of-a-kind biological characterization and bioforensic capabilities.



IMPACT

Since its inception, the National Biodefense Analysis and Countermeasures Center (NBACC) has played a key role America's response to the nation's most difficult public health and biodefense challenges. Its staff work in partnership with operational end-users to provide the scientific basis and operational capability necessary to detect events quickly and respond effectively.

BIOLOGICAL THREAT CHARACTERIZATION

National Biological Threat Characterization Center (NBTC) operates at the direction of Department of Homeland Security (DHS) Science and Technology Directorate (S&T) and conducts experiments to better understand biological vulnerabilities and hazards. This work informs biological agent hazard modeling required for effective preparedness and response planning for DHS, Health and Human Services, Department of Defense (DoD), and the intelligence community.

AGENT PERSISTENCE & DECONTAMINATION RESEARCH

NBTC conducts research to help scientists and decision-makers better understand the threats posed by dangerous pathogens. Its unique expertise and capabilities in aerobiology played a crucial role in the federal government's 2014 response to the Ebola outbreak and more recently, the COVID-19 pandemic. NBTC scientists greatly improved the understanding of SARS-CoV-2 (the virus causing COVID-19) and effective methods to prevent its spread. Their data informed not only DHS component operational responses to COVID-19, but also national and international pandemic response and policy decisions.

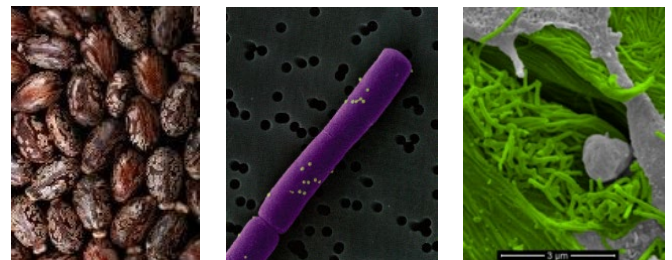


NBTC conducted studies on the environmental persistence of SARS-CoV-2, comparing early isolates of the virus to newer

variants of concern. Outcomes included formulas to predict how long the virus persists in aerosols and on surfaces; data to support development of methods for high temperature sanitization of vehicles; disinfection efficacy data that identified effective products; and animal models of COVID-19 that determined how much virus must be inhaled to infect an animal. Collectively, these knowledge products increase scientific understanding of the virus's behavior under real-world conditions and informed strategies to mitigate its spread.

BIOFORENSIC ANALYSIS

NBFAC operates at the direction of the FBI's Laboratory Division and is available 24/7/365 to conduct technical analyses for sensitive federal law enforcement and intelligence investigations. NBFAC's expert staff work to identify biological components in evidentiary samples with simultaneous analyses that merge traditional methods drawn from bacteriology, virology, toxinology, immunology, and molecular biology with cutting-edge approaches such as genomics, microscopy, mass spectrometry and bioinformatics.



TECHNICAL CAPABILITIES AID INVESTIGATIONS OF BIOCRIME AND BIOTERRORISM

In addition to providing the FBI with advanced analytical capabilities to support both law enforcement and intelligence investigations, National Bioforensic Analysis Center (NBFAC) regularly assists a wide variety of other federal partners, including U.S. Customs and Border Protection, U.S. Secret Service, Centers for Disease Control and Prevention, U.S. Department of Agriculture, DoD and U.S. State Department, the intelligence community, and National Aeronautics and Space Administration. On an international level, NBFAC supports many allied partners abroad as well as the United Nations Secretary General's office.