



**United States of America**

**Confidence Building Measure Return covering 2015**

**Convention on the Prohibition of the Development, Production and Stockpiling of  
Bacteriological (Biological) and Toxin Weapons and on their Destruction**

**Submitted to the United Nations on  
April 15, 2016**

**DATA EXTRACTED AND ELABORATED FROM ORIGINAL US GOVERNMENT PAPER  
BY GOSPA NEWS  
FOR WUANGATE DOSSIER**

## National biological defence research and development programmes

US BWC 2015 extract from pp. 16

The United States Government conducts a broad effort to reduce the risks presented by the deliberate or accidental release of biological agents and to defend against those threats in the event they occur. As called for by the National Strategy for Countering Biological Threats, this encompasses a range of initiatives, including improving global access to the life sciences to combat infectious disease regardless of its cause; establishing and reinforcing norms of safe and responsible conduct within the life sciences; improving capacity to detect and respond to outbreaks as they occur; and instituting a suite of coordinated activities that collectively help to influence, identify, inhibit, and/or interdict those who seek to misuse the life sciences.

One key element of this effort is the U.S. biodefense enterprise, which itself includes a variety of research and development programs aimed at protecting against the deliberate use of biological materials to cause harm. These programs focus on the identification of harmful pathogens and outbreaks of infectious diseases and their containment, treatment, and elimination from the environment. These programs are managed by several agencies with direct stakes in national security, environmental protection, and human and animal health and safety, including the Departments of Agriculture, Defense, Energy, Health and Human Services, Homeland Security, and the Environmental Protection Agency.

Historically, certain pathogens were selected for use as biological weapons because of their pathogenicity. Research on these pathogens, including study of molecular mechanisms and related diagnostic, vaccine and therapeutic development work, not only increases U.S. biodefense preparedness, but also offers inherent benefits for broader public health needs. Efforts to improve medical product stability, potency and ease-of-use that cut across disease targets could yield significant benefits for public health systems that cannot support existing treatments that require refrigeration, multiple doses or sophisticated diagnostic techniques. Similarly, biodefense initiatives to improve human and animal host defenses, to monitor emerging infectious diseases and drug-resistant microbes, and to clean up the site of a biological weapons attack have civilian applications that benefit public health services, such as epidemiological disease surveillance and environmental remediation.

To promote the benefits gained by these programs and to ensure that the research is available to the scientific community both domestically and internationally, the United States Government encourages the publication of research funded by its biodefense programs. For more information on U.S. Government strategies related to biodefense, including biological threat preparedness and response, please consult: *Management of Domestic Incidents (Homeland Security Presidential Directive 5 [HSPD-5]) and the related National Response Framework; Presidential Policy Directive 8: National Preparedness (PPD-8); National Strategy for Defense of United States Agriculture and Food (HSPD-9); National Biodefense Strategy (HSPD-10/National Security Presidential Directive-33 [NSPD-33]); Medical Countermeasures against Weapons of Mass Destruction (HSPD-18); Public Health and Medical Preparedness (HSPD-21); National Strategy to Combat Weapons of Mass Destruction (NSPD-17/HSPD-4); Executive Order 13527 ("Establishing Federal Capabilities for the Timely Provision of Medical Countermeasures following a Biological Attack"); and National Strategy for Countering Biological Threats.*

## National biological defence research and development programmes

US BWC 2015 extract from pp. 17-20

The **Department of Defense Chemical and Biological Defense Program** develops capabilities to enable the U.S. Armed Forces to deter, prevent, protect from, mitigate, respond to, and recover from the effects of chemical, biological, and radiological (CBR-) threats as part of a layered, integrated defense. The Program is an integral contributor to a global and systems approach for Countering Weapons of Mass Destruction (CWMD), Global Health Security, and other pertinent mission areas. The Program also works on producing self-disinfecting and/or self-decontaminating materials as well as developing, producing, and fielding capabilities for sampling, detecting, and identifying biological agents. Biological defense related work conducted by the Department of Defense is carried out by the military services and biological defense program-focused agencies. These include funding agencies and service laboratories within the Departments of the Air Force, Army, and Navy, and the Defense Threat Reduction Agency/Joint Science and Technology Office, the Joint Program Executive Office for Chemical and Biological Defense, and the Defense Advanced Research Projects Agency.

State the total funding for each programme and its source.

**\$593,425,000 U.S. Department of Defense (DoD)**

Funds for contract with industry, academic institutions, or in other non-defence facilities **57 %**

*Facility, both governmental and non-governmental, which has a substantial proportion of its resources devoted to each national biological defence research and development programme, within the territory of the reporting State, or under its jurisdiction or control anywhere.*

<b>U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID)</b>	<b>p. 10</b>
<b>Naval Medical Research Center (NMRC)</b>	<b>p. 11</b>
<b>Lothar Salomon Test Facility (LSTF)</b>	<b>p. 17</b>
<b>U.S. Army Medical Research Institute of Chemical Defense (USAMRICD)</b>	<b>p. 21</b>
<b>U.S. Army Edgewood Chemical and Biological Center</b>	<b>p. 22</b>
<b>Naval Research Laboratory (NRL)</b>	<b>p. 23</b>
<b>Naval Surface Warfare Center-Dahlgren Division (CBR) Defense Laboratory</b>	<b>p. 24</b>

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The **Environmental Protection Agency (EPA)**'s mission is to protect public health and the environment. The **National Homeland Security Research Center (NHSRC)**, part of the EPA's Office of Research and Development, conducts and reports on research to improve capacity to respond to and recover from environmental contamination of water infrastructure, buildings and outdoor areas by chemical, biological, radiological and nuclear (CBRN) agents.

State the total funding for the programme and its source.

**\$8,500,000 U.S. Environmental Protection Agency (EPA)**

Funds for contract with industry, academic institutions, or in other non-defence facilities **35 %**

*Facility, both governmental and non-governmental...*

**Not Applicable**

## National biological defence research and development programmes

US BWC 2015 extract from pp. 21-25

The **Department of Health and Human Services (HHS)** supports activities to improve local and state public health systems, to expand existing biosurveillance efforts, and to fund research on medical countermeasures against potential bioterror agents. The **National Institutes of Health (NIH)** biodefense program is supported by funding from HHS. The NIH, and specifically the **National Institute of Allergy and Infectious Diseases (NIAID)**, has the primary responsibility within the U.S. Government for civilian biodefense research.

State the total funding for each programme and its source.

**\$76,068,526 Department of Health and Human Services (HHS)**

Funds for contract with industry, academic institutions, or in other non-defence facilities **25 %**

*Facility, both governmental and non-governmental...*

<b>Integrated Research Facility at Fort Detrick (IRF - Frederick)</b>	<b>p. 9</b>
<b>Integrated Research Facility at Rocky Mountain Laboratories (IRF - RML)</b>	<b>p. 13</b>
<b>C.W. Bill Young Center for Biodefense and Emerging Infectious Diseases</b>	<b>p. 29</b>
<b>Dale and Betty Bumpers Vaccine Research Center</b>	<b>p. 30</b>

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The objective of the Mass Spectrometry Toxin Laboratory and the Chemical Threats Method Development Laboratory within **CDC's National Center for Environmental Health, Division of Laboratory Sciences** is to develop toxin assays that are critical for better detection and diagnosis during a public health response to biological toxins.

State the total funding for each programme and its source.

**\$2,407,816 Department of Health and Human Services (HHS)** - no contractors

*Facility, both governmental and non-governmental....*

<b>CDC - NCEH), Division of Laboratory Sciences (DLS)</b>	<b>p. 16</b>
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The activities of the **CDC Office of Infectious Disease (OID)** include developing diagnostic assays for public health, conducting molecular and antigenic characterization of microorganisms, evaluating decontamination methods, determining pathogenicity and virulence of infectious agents, determining the natural history of infectious organisms, and conducting epidemiologic studies and surveillance for diseases. Biodefense activities include those with **select agents (p. 35)**

State the total funding for each programme and its source.

**\$30,868,649 Department of Health and Human Services (HHS)**

Funds for contract with industry, academic institutions, or in other non-defence facilities **5 %**

*Facility, both governmental and non-governmental....*

<b>CDC, OID, National Center for Emerging and Zoonotic Infectious Diseases (NCEZID), Division of Vector Borne Diseases (DVBD) - Ft. Collins</b>	<b>p. 14</b>
<b>CDC, Office of Infectious Diseases (OID)</b>	<b>p. 15</b>

## National biological defence research and development programmes

US BWC 2016 extract from pp. 27-30

Preventing terrorism and enhancing security, including protection against biological terrorism, is one of the five key **Department of Homeland Security (DHS)** mission areas. This includes efforts to: prevent terrorist attacks, including biological attacks; prevent the unauthorized acquisition, importation, movement, or use of, inter alia, biological materials and capabilities within the United States; and reduce the vulnerability of critical infrastructure to terrorist attacks and other hazards. These efforts are further guided by the Homeland Security Presidential Directive – 10, “Biodefense for the 21st Century,” which outlines the four guiding pillars of the DHS Bio-defense program: Threat Awareness, Prevention and Protection, Surveillance and Detection, and Response and Recovery.

The **DHS Compliance Review Group**, chaired by the DHS Deputy Secretary, met in 2015 to review all relevant DHS-funded biological defense projects for compliance with the provisions of the Biological Weapons Convention and associated U.S. domestic laws and policies.

State the total funding for each programme and its source.

**\$95,400,000 U.S. Department of Homeland Security (DHS)**

The program funds work contracted to collaborating federal agencies (including defense agencies), national laboratories, private sector institutions and universities. **100 %**

Facility, both governmental and non-governmental...

**National Biodefense Analysis and Countermeasures Center (NBACC)**

**p. 8**

**Plum Island Animal Disease Center (PIADC)**

**p. 32**

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Foreign diseases of plants and animals represent a major threat to U.S. agriculture. Introduction of these agents, either accidental or deliberate, has devastating social and economic effects -- not only in the country's agricultural systems but also in a wide range of economic activities. Diseases of concern include but are not limited to wheat rust, Foot-and-Mouth Disease, Avian Influenza, Rift Valley Fever, Classical Swine Fever, African Swine Fever, Exotic Newcastle disease, Vesicular stomatitis, and Exotic Bluetongue.

The USDA-ARS biodefense research program is intramural and implemented in ARS high containment facilities in the following locations: Ames, Iowa; Orient Point, New York; Athens, Georgia; and Frederick, Maryland.

State the total funding for each programme and its source.

**\$ 17,600,000 U.S. Department of Agriculture (USDA)** - no contractors

Facility, both governmental and non-governmental....

**Foreign Disease-Weed Science Research Unit**

**p. 12**

**Plum Island Animal Disease Center (PIADC)**

**p. 32**

**National Animal Disease Center (NADC)**

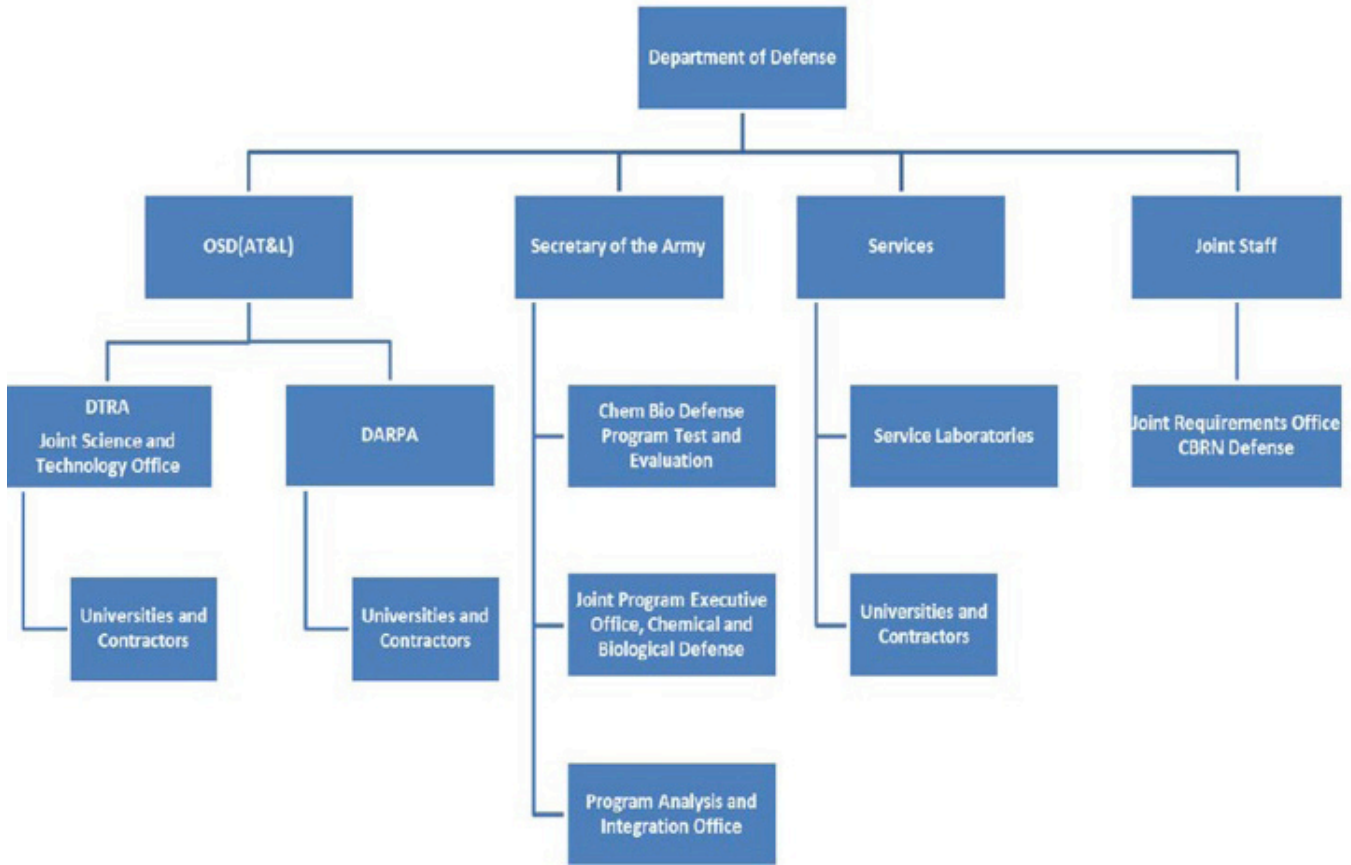
**p. 33**

**Southeast Poultry Research Laboratory**

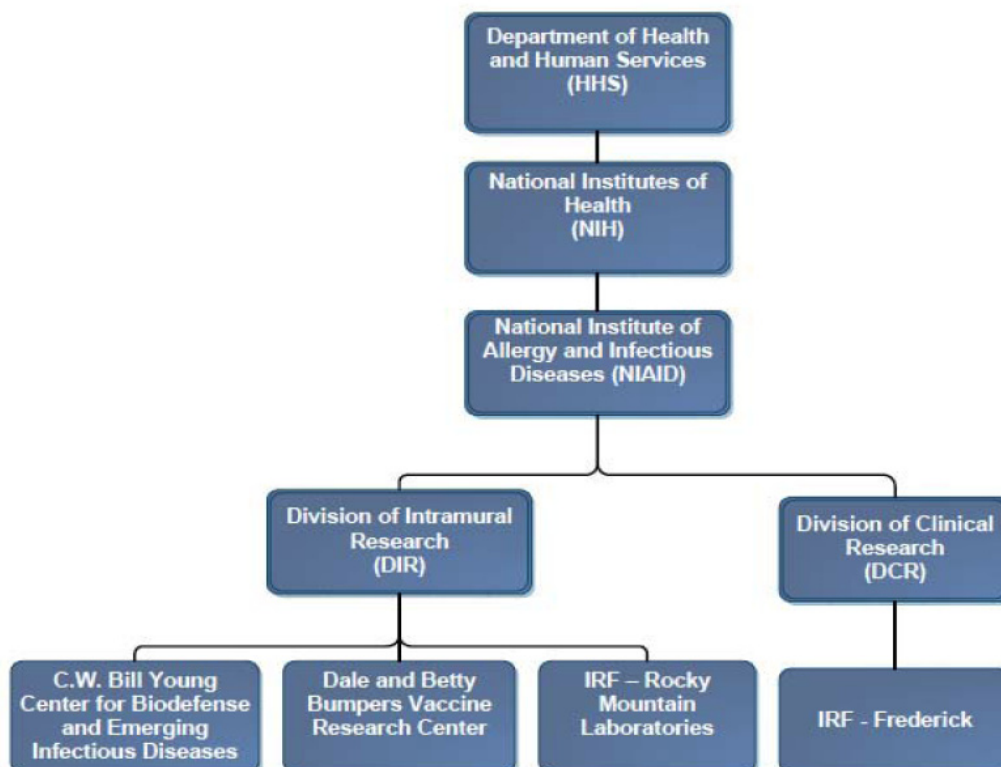
**p. 34**

## US Government's Funds for 2015 Bio-Defense **\$824,2 millions** Biological Weapons Convention BWC - released april 2016

DOD	Department of Defense	\$593,4 millions
HHS	Department of Health	\$109,3 millions
DHS	Department of Homeland Security (+ Epa)	\$103,9 millions
USDA	Department of Agriculture	\$17,6 millions



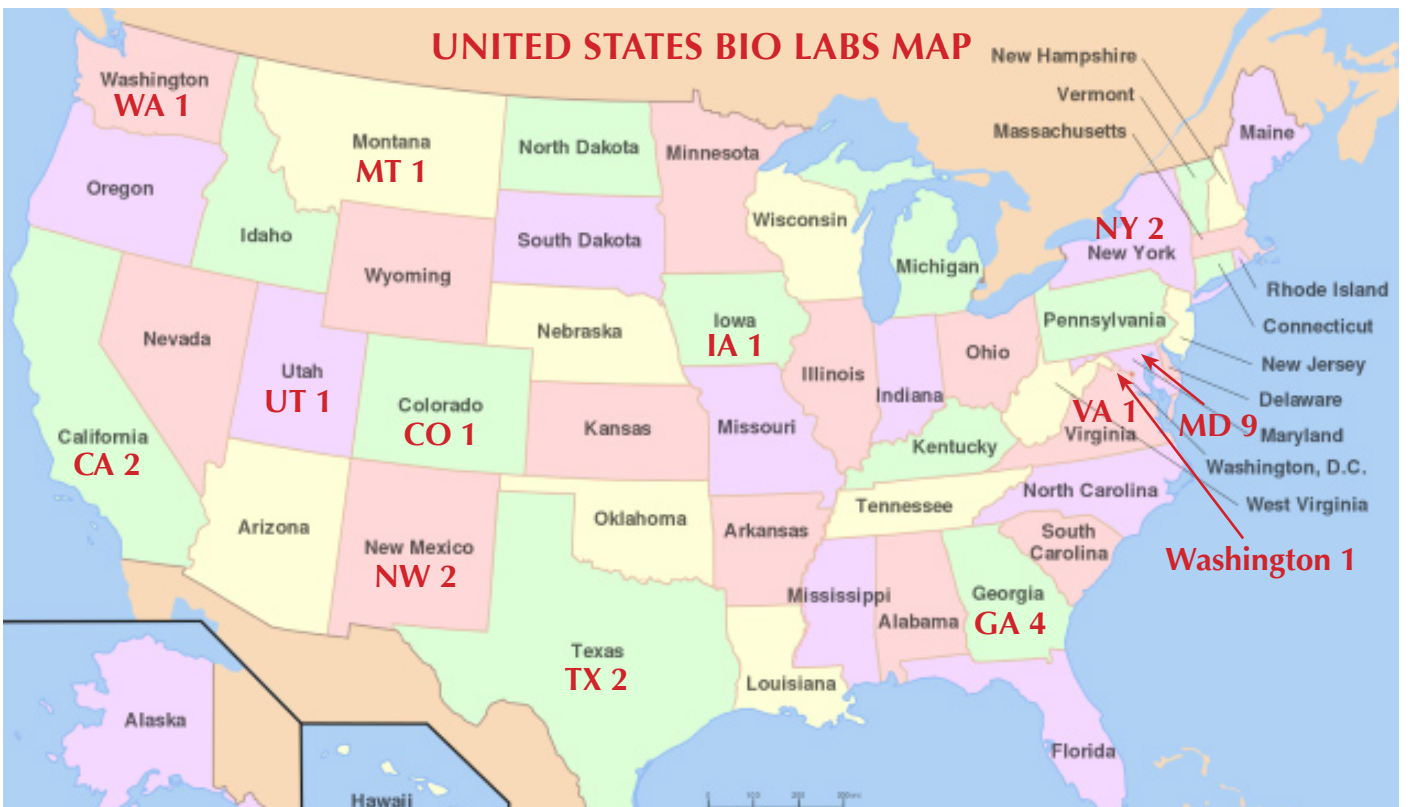
This chart reflects funding relationships





**GOSPA NEWS WARNING** - This dossier doesn't claim to be a document with scientific value on the military and civilian biological laboratories of the Government of the United States of America. It is in fact based with an extract from the *BCW Biological Weapons Convention* report sent to the UNOG (United Nation Office - Geneva) by the US Govt in 2016 and therefore referred to the situation in 2015. But it is the only document currently available that allows us to trace the maps of the US bio-defense and in the field of bacteriological weapons' researches. *Unfortunately the studies of some laboratories have not been published because they are defined as confidential by the Department of Defense.* The report is however further partially due to there is no mention of important bio labs such as the *U.S. Military HIV Research Program, Walter Reed Army Institute of Research, Silver Spring, Maryland.*

Original US BWC full document available on request [redazione@gospa.news.net](mailto:redazione@gospa.news.net)



## 1a - FORT DETRICK - NBACC

National Biodefense Analysis and Countermeasures Center - US BWC 2015 pp. 34-36

U.S. Department of Homeland Security - Science and Technology Directorate

Operated by **Battelle National Biodefense Institute LLC**

8300 Research Plaza, Fort Detrick, Maryland 21702



**Total laboratory floor area: 4,826 m<sup>2</sup>**

BSL-2: 1,282 m<sup>2</sup>    BSL-3: 2,564 m<sup>2</sup>    **BSL-4: 980 m<sup>2</sup>**

**Total number of personnel: 173    Civilian 173** (contractors 173)

Scientists 33    **Engineers 42**    Technicians 57    Administrative and support staff 41

**Disciplines:** Aerobiology, Bacteriology, Biochemistry, Bioinformatics, Biological Science, Biomedical Science, Biophysics, Biotechnology, Cell Biology, Chemistry, Computer Science, **Genetics**, Immunology, **Molecular Biology**, Toxicology, Veterinary Medicine, **Virology**

**Funding for the work conducted in the facility:**

U.S. Department of Homeland Security (DHS)

U.S. Department of Defense (DoD) – partly

U.S. Department of Justice (DoJ)

**Funding on 2015 BWC – CBM act:**

Research                    \$ 7,049,860

Development                \$ 13,947,786

**Total                         \$ 20,997,646**

**Objectives:** NBACC conducts studies to better understand current and future biological threats; to assess vulnerabilities; and to determine potential impacts to guide the development of biological countermeasures such as detectors, drugs, vaccines, and decontamination technologies. When needed, NBACC conducts experimental programs to better characterize the benefits and risks of changes in U.S. biodefense preparations. NBACC also develops bioforensic assays and provides operational bioforensic analysis to support the attribution of biocrime and bioterrorism. (<http://bnbi.org/>)

**Agents Microorganisms (Including viruses and prions) and/or toxins studied:** Select Agents (HHS, Overlap), Select Toxins (HHS), simulants, NIAID Category A pathogens. The types of agents registered for use at NBACC are BSL-2 toxins, BSL-2 gram positive and gram negative bacterial agents, BSL-2 viral agents, BSL-3 gram positive and gram negative bacterial agents, BSL-3 viral agents, and BSL-4 viral agents.

**Works published during the previous 12 months: 19**

Respiratory RSV researches 2



**1b - FORT DETRICK - IRF Frederick**  
**Integrated Research Facility at Fort Detrick - US BWC 2015 pp. 103-105**  
National Institutes of Health, Department of Health and Human Services  
Operated by **Battelle Memorial Institute**

8200 Research Plaza, Frederick, Maryland 21702



**Total laboratory floor area 2183 m2**

BL-2 878 m2      **BL-4 1305 m2**

**Total number of personnel 91      Civilian 91** (contractor 80)  
Scientists 29 **Engineers 2**      Technicians 53      Administrative and support staff 7

**Disciplines:** Aerobiology, Aerosol Science, Analytical Biochemistry, Biochemistry, Biological Science, Cell Biology, Immunology, Medicine, Microbiology, Microscopy, **Molecular Biology**, Molecular Diagnostics, Pathology, Public Health, Veterinary Medicine

**Funding for the work conducted in the facility:**  
Department of Health and Human Services (HHS)

**Funding on 2015 BWC – CBM act:**  
Research      \$19,261,144

**Objectives:** The Integrated Research Facility at Fort Detrick in Frederick, Maryland manages, coordinates, and facilitates the conduct of emerging infectious disease and biodefense research to develop vaccines, countermeasures, and improved medical outcomes for patients. Battelle Memorial Institute facilitates research performed at the IRF-Frederick with direction from the IRF Scientific Steering Committee.

**Agents Microorganisms and/or toxins studied:** Select Agents (HHS, USDA, Overlap), NIAID Category A pathogens

**Works published during the previous 12 months: 14**  
CoronaVirus/respiratory researches      6  
Ebola researches      2

## 1c - FORT DETRICK - USAMRIID

U.S. Army Medical Research Institute of Infectious Diseases - US BWC 2015 pp. 55-66

U.S. Army Medical Research and Materiel Command

1425 Porter Street, Fort Detrick, Frederick,  
Maryland 21702-5011



**Total laboratory floor area: 30,351 m<sup>2</sup>**

BSL-2: 26,026 m<sup>2</sup>    BSL-3: 3,139 m<sup>2</sup>    **BSL-4: 1,186 m<sup>2</sup>**

**Total number of personnel 919    Military 206    Civilian 713** (contractors 453)

Scientists 275    **Engineers 8**    Technicians 352    Administrative and support staff 284

**Disciplines:** Aerobiology, Biochemistry, Chemistry, Clinical Immunology, Entomology, **Genetics**, Immunology, Microbiology, **Molecular Biology**, Toxicology, Veterinary Medicine, **Virology**.

### **Funding for the work conducted in the facility**

U.S. Department of Defense (DoD) – Partly

U.S. Department of Homeland Security (DHS)

U.S. Department of Health and Human Services (HHS)

U.S. Department of Agriculture (USDA)

Universities and Private sector companies

### **Funding on 2015 BWC – CBM act:**

Research                    \$ 3,365,277

Development                \$ 51,409,181\*

Test and evaluation        \$ 5,322,071

**Total                         \$ 60,096,529**

\*Includes reimbursables from Cooperative Research and Development Agreements and other Departments

**Objectives:** Develop medical countermeasures, including candidate vaccines, undergo diagnostic tests and drug or immunological therapies for biological agents, and perform exploratory studies and advanced development of protective and therapeutic countermeasures and agent identification technologies. Additional information is available at <http://www.usamriid.army.mil/>.

**Agents Microorganisms (including viruses and prions) and/or Toxins:** Select Agents (HHS, Overlap), Select Toxins (HHS), NIAID Category A pathogens

### **Works published during the previous 12 months: 120**

Respiratory researches        3

Ebola researches                17

**1e – FORT DETRICK – NMRC**  
**Naval Medical Research Center - US BWC 2015 pp. 43-44**

8400 Research Plaza, Fort Detrick,  
Maryland 21702



**Total laboratory floor area: 2,000 m<sup>2</sup>**

BSL-2: 2,000 m<sup>2</sup>

**Total number of personnel: 61**      **Military 13**    **Civilian 48** (contractors 43)  
Scientists 19    Technicians 35      Administrative and support staff 7

**Disciplines:** Biochemistry, Computational Biology, Immunology, Microbiology, **Molecular Biology**

**Funding for the work conducted in the facility:**

**U.S. Department of Defense – wholly**

**Funding on 2015 BWC – CBM act:**

Research      \$ 4,725,008

**Objectives:** The goal of the program is the development of rapid and deployable detection assays to protect deployed forces. During 2015 we continued studying clinical cases of sepsis in austere environments with the ultimate goal of understanding host-pathogen interactions, development of new diagnostic assays and better treatment strategies against relevant infectious diseases. Additional information is available at [http://www.med.navy.mil/sites/nmrc/Pages/bd\\_main.htm](http://www.med.navy.mil/sites/nmrc/Pages/bd_main.htm).

**Agents Microorganisms (including viruses and prions) and/or toxins studied:** Select Agents (HHS, Overlap), Select Toxins (HHS), NIAID Category A pathogens

**Works published during the previous 12 months: 14**

Ebola researches                      2

**1e – FORT DETRICK – FDWSRU**  
**Foreign Disease-Weed Science Research Unit - US BWC 2015 pp. 121-123**

1301 Ditto Avenue, Fort Detrick,  
Maryland 21702



**Total laboratory floor area: 1,055 m<sup>2</sup>**

BSL-2: 105 m<sup>2</sup>      BSL-3: 950 m<sup>2</sup>

**Total number of personnel: 28      Civilian 28**

Scientists 10   Technicians 13      Administrative and support staff 5

**Disciplines:** Agronomy, Biological Science, Genomics, Horticulture, Bacteriology, Microbial Forensics, Molecular Diagnostics, Plant Biochemistry, Plant Molecular Biology, Plant Pathology, Plant Physiology, Proteomics, **Virology**, Weed Science

**Funding for the work conducted in the facility:**

U.S. Department of Agriculture (USDA)

**Funding on 2015 BWC – CBM act:**

Research      \$4,000,000

**Objectives:** The Foreign Disease-Weed Science Research Unit has two distinct missions united by a common relationship to plant pathology and the unit's unique BL-3 plant pathogen laboratory and greenhouse containment facilities. 1) The mission of the foreign disease program is to develop techniques for the rapid detection and identification of new and emerging crop pathogens, and to provide fundamental information on emerging pathogens for risk assessment and the development of practical phytosanitary regulations for the import and export of agricultural commodities and germplasm. Additional information about research projects conducted at this location is available at [http://www.ars.usda.gov/research/projects\\_programs.htm?modecode=80-44-05-00](http://www.ars.usda.gov/research/projects_programs.htm?modecode=80-44-05-00).

**Agents Microorganisms and/or toxins studied:** Select Agents (Plant Protection and Quarantine, PPQ)

**Works published during the previous 12 months: 10**

## 2 - IRF-RML

### Integrated Research Facility at Rocky Mountain Laboratories - US BWC 2015 pp. 95-102

National Institutes of Health (NIH)  
Department of Health and Human Services (HHS)  
903 South 4th Street, Hamilton, Montana 59840



#### Total laboratory floor area 2913 m<sup>2</sup>

BL2 1361 m<sup>2</sup>      BL3 407 m<sup>2</sup>      BL4 1145 m<sup>2</sup>

#### Total number of personnel 109

Scientists 47    Technicians 57      **Civilian 109** (contractors 5)  
Administrative and support staff = 5

**Disciplines:** Aerobiology, Animal Science, Bacteriology, Biochemistry, Biological Science, Cell Biology, Entomology, **Genetics, Genomics**, Immunology, Microbiology, Microscopy, **Molecular Biology**, Pathology, Proteomics, Veterinary Medicine, **Virology**

#### Funding for the work conducted in the facility:

Department of Health and Human Services (HHS)

#### Funding on 2015 BWC – CBM act:

Research      \$19,842,451

**Objectives:** The Integrated Research Facility at Rocky Mountain Laboratories hosts research dedicated to understanding the mechanisms of pathogenesis of microbial agents associated with or likely to cause serious or lethal human diseases using molecular methods and animal model systems. Research activities include pathogenesis studies, vaccinology, and the development of therapeutic countermeasures and rapid diagnostic assays in support of the civilian biodefense program. More information is available at <http://www.niaid.nih.gov/about/organization/dir/rml/Pages/default.aspx>.

**Agents Microorganisms and/or toxins studied:** Select Agents (HHS, Overlap, USDA), NIAID Category A pathogens

#### Work published during the previous 12 months: 75

CoronaVirus/Respiratory researches      6  
Ebola researches      23

### 3 - FORT COLLINS - CDC - OID

Centers for Disease Control - Office of Infectious Diseases - US BWC 2015 pp. 93-94

National Center for Emerging and Zoonotic Infectious Diseases (NCEZID)  
Division of Vector Borne Diseases (DVBD)  
3156 Rampart Road, Fort Collins, Colorado 80521



#### Total laboratory floor area 1208 m2

BL2 66 m2    BL3 1142 m2    BL4 0 m2

#### Total number of personnel 60    Civilian 60 (contractors 5)

Scientists 27    Technicians 16    Administrative and support staff 17

**Disciplines:** Animal Science, Bacteriology, Bioinformatics, Biological Science, Cell Biology, Ecology, Entomology, Environmental Science, Epidemiology, Genomics, Immunology, Medicine, Microbiology, **Molecular Biology**, Molecular Diagnostics, Pathology, Public Health, Structural Biology, Veterinary Medicine, **Virology**

#### Funding for the work conducted in the facility:

U.S. Department of Health & Human Services (HHS)

**Department of Defense (DoD)**

**Department of State (DoS)**

**Department of Homeland Security (DHS)**

#### Funding on 2015 BWC – CBM act:

Research                    \$1,436,889

Development                \$ 279,893

Test and evaluation        \$ 401,091

**Total                        \$2,117,873**

**Objectives:** CDC's Division of Vector Borne Diseases (DVBD) possesses many of the select agents that are on the Department of Health and Human Services (HHS) and HHS/U.S. Department of Agriculture overlap lists. Within CDC, DVBD has the primary responsibility for research on tularemia, plague and alphaviruses. This research involves development of assays for surveillance and detection of each agent and molecular and antigenic characterization. More information can be found at: <http://www.cdc.gov/ncezid/dvbd/>.

**Agents Microorganisms and/or toxins studied:** Select Agents (HHS, Overlap), NIAID Category A pathogens.

**Work published during the previous 12 months:** 7

#### 4 - CDC - OID

### Centers for Disease Control - Office of Infectious Diseases - US BWC 2015 pp. 84-92

Centers for Disease Control and Prevention (CDC)  
Department of Health and Human Services (HHS)  
1600 Clifton Road N.E., Atlanta, Georgia, 30333



#### Total laboratory floor area 2980 m<sup>2</sup>

BL2 294 m<sup>2</sup> BL3 2143 m<sup>2</sup> BL4 543 m<sup>2</sup>

#### Total number of personnel 236 Military 3 Civilian 233 (contractors 59)

Scientists 199 Technicians 23 Administrative and support staff 14

**Disciplines:** Animal Science, Biochemistry, Bioinformatics, Biology, Biological Science, Cell Biology, Chemistry, Clinical Immunology, Ecology, Entomology, Epidemiology, Genetics, Genomics, Immunology, Medicine, Microbiology, **Molecular Biology**, Molecular Diagnostics, Public Health, Statistics, Veterinary Medicine, **Virology**

#### Funding for the work conducted in the facility:

Agency for International Development (USAID)

Department of Homeland Security (DHS) -Department of State (DOS)

Department of Defense (DOD) – partly

Department of Health and Human Services (HHS)

#### Funding on 2015 BWC – CBM act:

Research \$ 13,833,850

Development \$ 7,633,607

Test and evaluation \$ 9,401,192

**Total \$ 30,868,649**

**Objectives:** Activities at this facility include developing diagnostic assays for public health, developing and validating methods to differentiate and characterize organisms and the toxins that they produce, conducting molecular and antigenic characterization of organisms, determining pathogenicity and virulence of infectious agents, vaccine evaluation, medical countermeasure evaluation, and conducting epidemiologic studies and surveillance for diseases. More information can be found at: <http://www.cdc.gov/oid/>.

**Agents Microorganisms and/or toxins studied:** Select Agents (HHS, USDA, Overlap), Select Toxins (HHS), NIAID Category A pathogens

#### Work published during the previous 12 months: 96

Influenza Virus A (H5N1-H7N3 and more) 20

Ebola researches 21

## 5 – CDC

### Centers for Disease Control and Prevention - US BWC 2015 pp. 81-82

National Center for Environmental Health (NCEH)  
Division of Laboratory Services (DLS)  
4770 Buford Highway, Atlanta, Georgia 30341



**Total laboratory floor area 568 m<sup>2</sup>**

BL2 568 m<sup>2</sup>

**Total number of personnel 21**      **Civilian 21** (contractors 6)

Scientists 21

**Disciplines:** Analytical Biochemistry, Analytical Chemistry, Analytical Mass Spectrometry, Biochemistry, Biology, Chemistry, Mass Spectrometry, Proteomics

#### **Funding for the work conducted in the facility:**

Centers for Disease Control and Prevention (CDC)  
Department of Health and Human Services (HHS)

#### **Funding on 2015 BWC – CBM act:**

Research	\$ 1,302,354
Development	\$ 363,375
Test and evaluation	\$ 742,086
<b>Total</b>	<b>\$ 2,407,816</b>

**Objectives:** The Division of Laboratory Sciences develops methods for measuring selected toxins to help improve detection and diagnosis during a public health response to biological toxins. More information can be found at <http://www.cdc.gov/nceh/dls/>.

**Agents Microorganisms and/or toxins studied:** HHS Select Toxins

**Works published during the previous 12 months: 14**



**6 - LSTF**  
**Lothar Salomon Test Facility - pag. 41**

2029 Burns Road, TEDT-DPW-LS MS#6, Dugway,  
Utah 84022-5006



**Total laboratory floor area: 1,046 m<sup>2</sup>**

BSL-2: 710 m<sup>2</sup>      BSL-3: 336 m<sup>2</sup>

**Total number of personnel: 38    Civilian 38** (contractors 9)

Scientists 31      **Engineers 1**    Technicians 4      Administrative and support staff 2

**Disciplines:** Aerobiology, Bacteriology, Biochemistry, **Engineering**, Immunology, Microbiology, **Molecular Biology**, Toxicology, **Virology**

**Funding for the work conducted in the facility:**

**U.S. Department of Defense (DoD)** – partly

**U.S. Department of Homeland Security (DHS)**

**U.S. Department of Justice (DOJ)**

**Funding on 2015 BWC – CBM act:**

Test and evaluation    \$ 1,582,000

**Objectives:** Test battlefield detection and identification methods, protective equipment, and decontamination systems, including interferent testing of biological detectors, and develop/validate aerosol particle dispersion models to enhance countermeasure response.

Additional information can be found at: <http://www.dugway.army.mil>

**Agents Microorganisms (including viruses and prions) and/or toxins studied:** Select Agents (HHS, Overlap), NIAID Category A pathogens, Simulants

**Outdoor Studies: Yes - using simulants**

**Works published during the previous 12 months: none available**

all under Security and Policy Review of DoD Directive 5230.09

**7 – UTMB - GNL - Galveston National Laboratory  
Complex including Robert E. Shope Laboratory - US BWC 2015 pp. 10**

The University of Texas Medical Branch  
301 University Boulevard, Galveston,  
Texas 77555



**Total laboratory floor area: 1,046 m<sup>2</sup>**

BSL-4 Laboratory = 1022 m<sup>2</sup> (GNL Laboratory)

BSL-4 186 m<sup>2</sup> (Shope Laboratory)

**Funding for the work conducted in the facility:**

Department of Energy (DOE)

Department of Defense (DOD) - partly

Department of Homeland Security (DHS)

National Institutes of Health (NIH)

Department of Agriculture (USDA)

Private Foundations  
Pharmaceutical Industry

**Funding on 2015 BWC – CBM act: none available**

**Objectives:** The mission of the Galveston National Laboratory is to assist the National Institute of Allergy and Infectious Diseases and the nation in the development of an improved means for the prevention, diagnosis and treatment of potentially life-threatening diseases caused by naturally emerging and purposefully disseminated infectious agents. To accomplish this goal GNL conducts multidisciplinary research into the causes, modes of transmission, and mechanisms of infectious diseases. Studies focus on a number of pathogens requiring BSL-4 containment, primarily those that cause viral hemorrhagic fevers, as well as some zoonotic viruses requiring enhanced BSL-3 containment. Products likely to emerge from research and investigations within the GNL include novel diagnostic assays, improved therapeutics and treatment models, and preventative measures such as vaccines. Additional information can be found at: <http://www.utmb.edu/gnl/>.

**Agents Microorganisms and/or toxins studied: none available**

**Works published during the previous 12 months: none available**

**8 - The Betty Slick and Lewis J. Moorman Jr. Laboratory Complex**  
Texas Biomed - Department of Virology and Immunology - US BWC 2015 pp. 11

Texas Biomedical Research Institute  
P.O. Box 760549, San Antonio,  
Texas 78245-0549



**Total laboratory floor area: 114 m2**

BSL 4 Laboratory 114 m2

**Financed by:**

Department of Health and Human Services (HHS)

Department of Defense (DOD) - partly

Department of Homeland Security (DHS)

Private Sector Companies

Private Donors

**Funding on 2015 BWC – CBM act: none available**

**Objectives:** The mission of the Laboratory is to develop vaccines and therapeutics against viral pathogens, and to determine how viruses replicate and spread. Scientists are studying new and emerging disease threats, possible bioterrorism agents, and as-yet uncharacterized agents for biodefense. TX-Biomed (formerly Southwest Foundation for Biomedical Research) has permits from the U.S. Department of Agriculture and the Centers for Disease Control to work on select agents. Additional information can be found at: <http://www.txbiomed.org/about/extraordinaryresources/>

**Agents Microorganisms and/or toxins studied: none available**

**Works published during the previous 12 months: none available**

**9 – GSU - Viral Immunology Center**  
**National B Virus Resource Laboratory - US BWC 2015 pp. 12**

Georgia State University  
P. O. Box 4118, Atlanta,  
Georgia 30302-4118



**Total laboratory floor area 60 m2**

**BSL 4 Laboratory 60 m2**

**Financed by:**

Department of Health and Human Services (HHS)

Georgia Research Alliance

Immunology Core Support

Elizabeth R. Griffin Research Foundation

**Funding on 2015 BWC – CBM act: none available**

**Objectives:** The Viral Immunology Center provides a global resource to assist in the identification of zoonotic disease transmissions and to develop enhanced strategies to detect viral infections in macaques. Current projects in the National B Virus Resource Laboratory are focused on the molecular biology of human and non-human primate alphaherpesviruses and the diseases they cause. Studies focus on the mechanisms by which virus kills the host and how that process can be circumvented with: Early identification - Appropriate antiviral drugs - In the future, effective vaccines. Additional information can be found at <http://www2.gsu.edu/~wwwvir/Research/Index.html>

**Agents Microorganisms and/or toxins studied: none available**

**Works published during the previous 12 months: none available**

## 10 - USAMRICD

U.S. Army Medical Research Institute of Chemical Defense - US BWC 2015 pp. 53-54

2900 Ricketts Point Road  
Aberdeen Proving Ground,  
Maryland 21010



**Total laboratory floor area 300 m<sup>2</sup>**

BSL-2: 300 m<sup>2</sup>

**Total number of personnel: 17**      **Civilian 17** (contractors 12)

Scientists 7                      Technicians 10

**Disciplines:** Biochemistry, **Molecular Biology**, Pharmacology, Physiology

**Funding for the work conducted in the facility:**

**U.S. Department of Defense (DoD) – wholly**

**Funding on 2015 BWC – CBM act:**

Research                      \$ 2,017,755

**Objectives:** Discover and develop medical products and knowledge solutions against chemical and toxin threats through research, education and training, and consultation. USAMRICD performs comprehensive, basic scientific research using established and emerging technologies that support the transition of products to advanced development; develops education and training capabilities for military, interagency, domestic, and international personnel in the medical management of chemical casualties; and provides a venue for mutually beneficial collaboration with external investigators and interagency partners to conduct medical chemical defense research against chemical warfare agents and toxins. <https://usamricd.apgea.army.mil/>

**Agents Microorganisms (including viruses and prions) and/or toxins studied:** HHS Select Toxins

**Works published during the previous 12 months: 14**

## 11 - US ECBC

### U.S. Army Edgewood Chemical and Biological Center - US BWC 2015 pp. 50-51

5183 Blackhawk Road  
Aberdeen Proving Ground,  
Maryland 21010-5424



**Total laboratory floor area: 709 m<sup>2</sup>**

BSL-2: 532 m<sup>2</sup>      BSL-3: 177 m<sup>2</sup>

**Total number of personnel 105    Civilian 105**

Scientists 44      Technicians 42      Administrative and support staff 19

**Disciplines:** Aerobiology, Aerospace Engineering, Biochemistry, **Biomedical Engineering**, Biotechnology, **Chemical Engineering**, Chemistry, Computer Engineering, Electronic Engineering, Immunology, Mathematics, Mechanical Engineering, Microbiology, **Molecular Biology**, Operations Research Analysis, Physics, Physiology, Toxicology, Toxinology, Virology  
U. S. Department of Defense (DoD) – Wholly

**Funding for the work conducted in the facility:**

**U.S. Department of Defense (DoD) – wholly**

**Funding on 2015 BWC – CBM act:**

Research	\$763,000
Development	\$21,341,000
<b>Total</b>	<b>\$22,104,000</b>

**Objectives:** Development of non-medical defensive material against biological agents through research, development, and engineering of rapid detection, identification, decontamination methods as well as physical protection from biological threat agents. Additional information is available at <http://www.ecbc.army.mil/research/index.html>.

**Agents Microorganisms and/or toxins studied:** Select Agents (HHS, Overlap) and Toxins, NIAID Category A pathogens, Simulants

**Works published during the previous 12 months: 15**

**12 - US NRL**  
**Naval Research Laboratory - US BWC 2015 pp. 46-47**

4555 Overlook Ave., SW,  
Washington, D.C. 20375



**Total laboratory floor area: 520 m2**

BSL-2: 520 m2

**Total number of personnel: 33    Military 1    Civilian 32** (contractors 4)

Scientists 28 **Engineers 1**    Technicians 4

**Disciplines:** Biochemistry, Biophysics, **Chemical Engineering**, Chemistry, Immunology, Mechanical Engineering, Microbiology, **Molecular Biology**, Physics

**Funding for the work conducted in the facility:**

**U.S. Department of Defense (DoD) – wholly**

**Funding on 2015 BWC – CBM act:**

Research                    \$ 3,959,000

Development              \$ 1,742,000

**Total                         \$ 5,701,000**

**Objectives:** The objectives of research at NRL are to **develop and test reliable systems for the detection of chemical and biological (CB) warfare agents** in order to provide early warning and contamination avoidance information. Additional information is available at <http://www.nrl.navy.mil/research/>.

**Agents Microorganisms (including viruses and prions) and/or toxins studied:** Simulants

**Works published during the previous 12 months: 9**

**13 - US NSWC**  
**Naval Surface Warfare Center - Dahlgren Division,**  
**Chemical, Biological, Radiological (CBR) Defense Laboratory - US BWC 2015 pp. 48-49**

6149 Welsh Road, Dahlgren,  
Virginia 22448



**Total laboratory floor area: 216 m2**

BSL-2: 190 m2      BSL-3: 26 m2

**Total number of personnel: 184    Civilian 184**

Scientists 64      **Engineers 46**      Technicians 16      Administrative and support staff 58

**Disciplines:** Aerospace Engineering, **Chemical Engineering**, Chemistry, Computer Engineering, Computer Science, Electronic Engineering, Industrial Engineering, Mathematics, Mechanical Engineering, Microbiology, **Molecular Biology**, Operations Research Analysis, Physics, Toxicology

**Funding for the work conducted in the facility:**

**U.S. Department of Defense (DoD) – partly**

Private Sector Companies

Internal (Laboratory Directed Research and Development [LDRD])

**Other Governmental Agencies**

**Funding on 2015 BWC – CBM act:**

Research	\$ 1,331,000
Development	\$ 6,161,940
Test and evaluation	\$ 3,553,636
<b>Total</b>	<b>\$ 11,046,576</b>

**Objectives:** Efforts at this **defense laboratory are focused on biological detection systems**, collective and individual protection systems, hazard mitigation technologies, risk assessment tools, and consequence management planning. Additional information is available at <http://www.navsea.navy.mil/Home/WarfareCenters/NSWCDahlgren.aspx>

**Agents Microorganisms (including viruses and prions) and/or toxins studied:** Select Agents (Overlap), NIAID Category A pathogens, Simulants

**Works published during the previous 12 months: 2**



**14 - LLNL**  
**Lawrence Livermore National Laboratory - US BWC 2015 pp. 69-70**

7000 East Avenue, Livermore,  
California 94550  
62 km east-southeast of San Francisco, California



**Total laboratory floor area: 1,744.5 m<sup>2</sup>**

BSL-2: 1,685 m<sup>2</sup>      BSL-3: 59.5 m<sup>2</sup>

**Total number of personnel: 65      Civilian: 65**

Scientists 26      **Engineers 11**      Technicians 15      Administrative and support staff 13

**Disciplines:** Aerosol Science, Analytical Biochemistry, Analytical Mass Spectrometry, Bacteriology, Biochemistry, Bioinformatics, **Biomedical Engineering**, Biomedical Science, Biotechnology, Computational Biology, Computer Science, Environmental Science, Epidemiology, **Genomics**, Immunology, Mass Spectrometry, Microbial Forensics, Microbiology, **Molecular Biology**, Molecular Diagnostics, Nanotechnology, Proteomics, Toxinology, **Virology**.

**Funding for the work conducted in the facility:**

Department of Defense-partly (DoD)

Department of Homeland Security (DHS)

Department of Energy - Department of Health & Human Services (HHS)

**Funding on 2015 BWC – CBM act:**

Research                      \$ 4,474,000

Development                \$ 3,189,000

Test and evaluation        \$ 1,718,000

**Total                            \$ 9,381,000**

**Objectives:** Biological agent detection, therapeutics development, virulence mechanism elucidation, structural characterization, agent viability testing, response planning, assay development for monitoring for biological decontamination/response, and bioforensics. Beyond detection, response, recovery, and attribution, LLNL also has ongoing research projects to elucidate mechanisms of host-pathogen interactions. Additional information is available at <https://missions.llnl.gov/biosecurity>.

**Agents Microorganisms and/or toxins studied:** Select Agents (HHS, Overlap), NIAID Category A pathogens, simulants.

**Works published during the previous 12 months: 5**

Ebola researches                      2

## 15 - LANL

### Los Alamos National Laboratory - US BWC 2015 pp. 71-74

Bikini Atoll Road SM-30, Los Alamos,  
New Mexico 87545  
45 miles west of Santa Fe, New Mexico



**Total laboratory floor area: 320 m2**

BSL-2: 320 m2

**Total number of personnel: 47**    **Civilian 47** (contractor 1)

Scientists 22            **Engineers 1**    Technicians 21            Administrative and support staff 3

**Disciplines:** Bacteriology, Biological Science, Chemistry, Cell Biology, Microbiology, **Molecular Biology**, Bioinformatics, **Genomics**, Environmental Science, Plant Pathology, Analytical Biochemistry, Molecular Diagnostics, Public Health, Biotechnology, Biochemistry, **Genetics**, **Virology**.

**Funding for the work conducted in the facility:**

**U.S. Agency for International Development (USAID)**

**Department of Defense (DoD) – partly**

**Department of Homeland Security (DHS)**

Department of Health & Human Services (HHS)

Internal (Laboratory Directed Research and Development)

**Funding on 2015 BWC – CBM act:**

Research                    \$9,642,000

Development                \$ 1,900,000

Test and evaluation        \$ 1,300,000

**Total                         \$12,842,000**

**Objectives:** Study molecular, chemical, and physical characteristics of biothreat agents, including bacteria, viruses and toxins, for detection, characterization, assay design and improvement; develop DNA, RNA and protein based bioforensics assays; perform viral and bacterial pathogen sequencing for characterization, comparative genomic analysis, and metagenomic analysis; develop high throughput assays for host-pathogen protein interactions screening; develop and validate assays to improve the ability to identify and characterize bioterrorism incident. Additional information is available at <http://www.lanl.gov/science-innovation/capabilities/bioscience-biosecurity-health/biosecurity-health/index.php>.

**Agents Microorganisms and/or Toxins Studied:** Select Agents (HHS, Overlap), NIAID Category A

**Works published during the previous 12 months: 22**

Yersinia pestis and Botulinum researches

**16 - PNNL**  
**Pacific Northwest National Laboratory - US BWC 2015 pp. 75-77**

902 Battelle Boulevard, Richland,  
Washington 99352



**Total laboratory floor area:**

Richland campus: BSL-2 769 m<sup>2</sup> Sequim campus: BSL-2 81 m<sup>2</sup> (Marine Sciences Laboratory)

**Total number of personnel: 94**

**Civilian 94** (contractor 1)

Scientists 80

Engineers 2

Admin and Support Staff 12

**Disciplines:** Analytical Mass Spectrometry, Bacteriology, Biochemistry, Biological Science, Cell Biology, Chemistry, Computational Biology, **Genetics**, **Genomics**, Mass Spectrometry, Microbial Forensics, Microbiology, **Molecular Biology**, Nanotechnology, Pathology, Proteomics, Structural Biology, Systems Biology, **Virology**.

**Funding for the work conducted in the facility:**

Department of Defense (DoD) - partially

Department of Homeland Security (DHS)

Department of Energy (DOE) - Department of Health & Human Services (HHS)

Internal (Laboratory Directed Research and Development)

Other Government Agencies

**Funding on 2015 BWC – CBM act:**

Research \$10,483,000

Development \$314,000

Test and evaluation \$1,391,000

**Total \$12,188,000**

**Objectives:** PNNL is involved in biodefense-related activities, such as agent characterization (e.g., knock out experiments and investigation of infectious properties of agents) and the development of detection methods (e.g., nucleic acid, toxin, and proteomic signatures), testing and evaluation of commercial off the shelf equipment for agent detection as well as investigation of next generation biodetection equipment, biological and chemical forensics, investigation of natural history of agents, pathogenesis studies, and interrogating DNA sequencing data and related analysis tools. No outdoor studies of biological aerosols were collected. Additional information is available at [http://www.pnnl.gov/nationalsecurity/technical/capabilities/cbps/chem\\_biological\\_science.stm](http://www.pnnl.gov/nationalsecurity/technical/capabilities/cbps/chem_biological_science.stm).

**Microorganisms and/or toxins studied:** Select Agents (HHS, Overlap), NIAID Category A, Simulants

**Works published during the previous 12 months: 11**

## 17 - SNL - KIRTLAND AIR FORCE BASE

Sandia National Laboratories - US BWC 2015 pp. 78-80

Department of Energy/National Nuclear Security Administration (DOE/NNSA) facility,

New Mexico Campus: 5800, Albuquerque, New Mexico 87185

located on Kirtland Air Force Base

California Campus: 7011 East Avenue, Livermore, California located in Livermore, CA



### Total laboratory floor area:

New Mexico campus: BSL-2: 652.58 m<sup>2</sup> California campus: BSL-2: 230 m<sup>2</sup>

### Total number of personnel: New Mexico campus: 157 California campus: 43 Civilian 200

Scientists 113      **Engineers 29**      Technicians 48      Admin and Support Staff 10

**Disciplines:** Aerosol Science, Biochemistry, **Biomedical Engineering**, Biotechnology, Chemical Engineering, Materials Science, Medicine, Nanotechnology, Aerobiology, Bioinformatics, Biological Science, Cell Biology, Immunology, **Molecular Biology**, **Virology**, Molecular Diagnostics, Biophysics, Chemistry, Physics, Analytical Biochemistry, Analytical Chemistry, Analytical Mass Spectrometry, Bacteriology, Bioinorganic Chemistry, Biomedical Science, Computational Biology, Computer Engineering, Computer Science, Electrical Engineering, Environmental Engineering, Environmental Science, **Genetics**, **Genomics**, Mass Spectrometry, Mathematics, Mechanical Engineering, Microbial Forensics, Microbiology, Neuroscience, Operations Research Analysis, Optical Spectroscopy, Pathology, Physiology, Polymer Science, **Protein Engineering**, Proteomics, Structural Biology, Toxicology

### Funding for the work conducted in the facility:

**Department of Defense (DoD) - Department of Homeland Security (DHS) - Department of Energy**

Department of Health and Human Services (HHS)

Private sector / Internal (Laboratory Directed Research & Development, LDRD)

### Funding on 2015 BWC – CBM act:

Research \$ 12,543,979.28      Development \$ 2,738,717.75      Test and Evaluation \$ 796,106.75

**Total                                \$ 16,078,803.78**

**Objectives:** To anticipate and defend against biological threats, our multidisciplinary research team is applying Sandia's traditional strengths in engineering and technology development to achieve the following goals: 1) Gain basic knowledge regarding the fundamental molecular processes of pathogenesis, including the dynamic interactions between microbial pathogens and their hosts; 2) Develop assays, novel materials, and platforms to detect and diagnose traditional and unknown pathogens, as well as to discover novel therapeutic targets; and 3) Obtain an understanding of the microbiome's effects on human health in the absence or in the presence of an infectious disease. Additional information is available at [http://www.sandia.gov/research/research\\_foundations/bioscience/index.html](http://www.sandia.gov/research/research_foundations/bioscience/index.html)

**Microorganisms and/or toxins studied:** **No select agents, select toxins or NIAID Category A pathogens were studied at the facility.**

**Works published during the previous 12 months: 10**

**18 - C.W. Bill Young Center for Biodefense  
and Emerging Infectious Diseases - US BWC 2015 pp. 106-117**

National Institutes of Health  
Department of Health and Human Services  
9000 Rockville Pike, Bethesda, Maryland 20892



**Total laboratory floor area 4081 m<sup>2</sup>**

BL2 2725 m<sup>2</sup>      BL3 1356 m<sup>2</sup>

**Total number of personnel 162**

Scientists 87      Technicians 70

**Civilian 162** (contractors 18)

Administrative and support staff 5

**Disciplines:** Bacteriology, Biological Science, Chemistry, Immunology, Medicine, Microbiology, **Molecular Biology**, Parasitology, Pathogenesis, Toxicology, Vaccine Evaluation, **Virology**

**Funding for the work conducted in the facility:**

Department of Health and Human Services (HHS)

**Funding on 2015 BWC – CBM act:**

Research      \$35,883,213

**Objectives:** At the C.W. Bill Young Center for Biodefense and Emerging Infectious Diseases, the Laboratory of Infectious Diseases (LID) focuses on vaccine development, host immune response to viruses, and viral molecular biology and genetics. The Laboratory of Parasitic Diseases (LPD) conducts basic and applied research on the prevention, control, and treatment of a variety of parasitic and bacterial diseases of global importance. The Laboratory of Viral Diseases (LVD) carries out investigations on the molecular biology of viruses, the interactions of viruses with host cells, the pathogens of viral diseases, and host defense mechanisms. The Laboratory of Clinical Infectious Diseases (LCID) conducts clinical and basic studies of important human infections and immunological diseases. The Laboratory of Bacteriology (LB) studies bacteria that cause important human infections to identify novel or improved strategies to control bacterial diseases, including development of diagnostics, vaccines, and therapeutics. More information can be found at <http://www.nih.gov/news-events/newsreleases/nih-dedicates-cw-bill-young-center-biodefense-emerging-infectious-diseases>.

**Microorganisms and/or toxins studied:** Select Agents (HHS, USDA), NIAID Category A pathogen

**Works published during the previous 12 months: 126**

CoronaVirus MERS-Cov, Avian influenza A H5N1, TBC and other respiratory diseases 37

HIV researches 5

**19 - VCR - Dale and Betty Bumpers**  
**Vaccine Research Center - US BWC 2015 pp. 118-120**

National Institutes of Health  
Department of Health and Human Services  
9000 Rockville Pike, Bethesda, Maryland 20892



**Total laboratory floor area 89 m2**

BL2 89 m2

**Total number of personnel 8**

Scientists 8

**Civilian 8 (contractor 1)**

**Disciplines:** Biological Science

**Funding for the work conducted in the facility:**

Department of Health and Human Services (HHS)

**Funding on 2015 BWC – CBM act:**

Research \$1,081,718

**Objectives:** The mission of the Vaccine Research Center (VRC) is to conduct research that facilitates the development of effective vaccines for human disease. The research focus of the Biodefense Research Section comprises three areas: development of vaccines and antivirals against hemorrhagic fever viruses such as Ebola, Marburg, and Lassa; studies of the mechanism of vaccine-induced immune protection and host immunity to natural infection; basic research to understand the mechanism of virus replication (entry) and neutralization. More information can be found at <http://www.niaid.nih.gov/about/organization/vrc/pages/default.aspx/Pages/default.aspx>.

**Microorganisms and/or toxins studied:** No U.S. Select Agents, NIAID Category A pathogens, or applicable simulants were used

**Works published during the previous 12 months: 7**

Ebola researches 5

**20 - BNL**  
**Brookhaven National Laboratory - US BWC 2015 pp. 67-68**

Biology Department, Upton, New York 11973  
Located on William Floyd Parkway,  
County Road 46, 1.5 miles north of Long Island Expressway Exit 68



**Total laboratory floor area: 18 m2**

BSL-2: 18 m2

**Total number of personnel: 3      Civilian 3**

Scientists 3

**Disciplines:** Biochemistry, Structural Biology

**Funding for the work conducted in the facility:**

Department of Defense (DoD) – partly

Department of Health and Human Services (HHS)

**Funding on 2015 BWC – CBM act:**

Research                      \$ 689,000

**Objectives:** The overall objective of the work is to develop countermeasures for biowarfare agents. The specific aims of the projects are to determine the three-dimensional structures of the agents. The purified agents are crystallized using standard crystallization techniques and brought to the National Synchrotron Light Source (also located at Brookhaven National Laboratory) for x-ray diffraction studies. These results can lead to vaccine development, treatment, and/or diagnosis and detection. Additional information is available at <https://www.bnl.gov/biosciences/>.

**Microorganisms and/or Toxins Studied:** HHS Select Toxin.

**Works published during the previous 12 months: 3**

Botulinum neurotoxin

3

**21 - PIADC**  
**Plum Island Animal Disease Center - US BWC 2015 pp. 67-68**

40550 Route 25, Orient Point,  
New York 11957



**Total laboratory floor area: 18,338 m<sup>2</sup>**

BSL-2: 292 m<sup>2</sup>      BSL-3: 18,046 m<sup>2</sup>

**Total number of personnel: 403**    **Civilian 403** /(contractors 287)

Scientists 88      **Engineers 6**    Technicians 47      Administrative and support staff 262

**Disciplines:** Biological Science, Chemistry, **Engineering**, Microbiology, **Molecular Biology**, Computational Biology, Pathology, Veterinary Medicine

**Funding for the work conducted in the facility:**

U.S. Department of Agriculture (USDA)

**U.S. Department of Homeland Security (DHS)**

**Funding on 2015 BWC – CBM act:**

Research              \$ 6,000,000

Development        \$ 10,500,000

Test and evaluation \$ 4,953,257

**Total**                **\$ 21,453,257**

**Objectives:** PIADC provides the only research and development and confirmatory diagnostic capability for specific high-consequence, contagious, foreign animal diseases of livestock, including foot-and-mouth disease, in the U.S. Technologies researched and developed are vaccines, antivirals, and diagnostic methods.

**Microorganisms and/or Toxins Studied:** Select Agents (USDA).

**Works published during the previous 12 months: 23**

African swine fever      4



22 - NADC - USDA ARS  
National Animal Disease Center - US BWC 2015 pp. 124-129

1920 Dayton Avenue, Ames,  
Iowa 50010



**Total laboratory floor area: 6,899 m<sup>2</sup>**

BSL-2: 4,410 m<sup>2</sup>                      BSL-3: 2,489 m<sup>2</sup>                      Total biocontainment facility floor area: 5209.8 m<sup>2</sup>

**Total number of personnel: 48      Civilian 48**

Scientists 8                      **Engineers 1**      Technicians 10                      Administrative and support staff 29

**Disciplines:** Agricultural Engineering, Animal Science, Biochemistry, Bioinformatics, Biology, Biotechnology, Cell Biology, Clinical Immunology, Computational Biology, Ecology, **Genetics, Genomics**, Immunology, Infectious Disease, Mass Spectrometry, Microbiology, **Molecular Biology**, Pathogenesis, Pathology, Physiology, Prionology, Proteomics, Statistics, Structural Biology, Vaccine Evaluation, Veterinarian, Veterinary Clinical Research, Veterinary Medicine, **Virology**

**Funding for the work conducted in the facility:**

U.S. Department of Agriculture (USDA)  
**Department of Defense (DoD) – partly**  
Department of Health and Human Services (HHS)  
Universities / Private Sector Companies

**Funding on 2015 BWC – CBM act:**

Research                      \$5,800,000

**Objectives:** Support the control and eradication of national and international exotic, emerging, zoonotic, and endemic infectious diseases of animals through a comprehensive research program emphasizing basic and applied research in diagnostics, prevention, and control strategies, prediction of disease outbreaks, molecular epidemiology, and understanding disease pathogenesis. Specifically, the research programs aim to produce new research knowledge and technology to: prevent, reduce or eliminate losses from impaired performance and increased deaths and condemnations; develop more sensitive, specific and faster diagnostic tests; develop vaccines designed for the control and, when feasible, the eradication of disease. Additional information about research projects conducted at this location is available at [http://www.ars.usda.gov/research/projects\\_programs.htm?modecode=50-30-20-00](http://www.ars.usda.gov/research/projects_programs.htm?modecode=50-30-20-00).

**Microorganisms and/or Toxins Studied:** Select Agents (Overlap, USDA)

**Works published during the previous 12 months: 49**

Mannheimia haemolytica, Salmonella, Bordetella bronchiseptica

**23 - SEPRL USDA ARS**  
**Southeast Poultry Research Laboratory - US BWC 2015 pp. 130-132**

934 College Station Road, Athens,  
Georgia 30605



**Total laboratory floor area: 1,762 m<sup>2</sup>**

BSL-2: 1,138 m<sup>2</sup>                      BSL-3: 624 m<sup>2</sup>

**Total number of personnel: 37      Civilian 37**

Scientists 10                      Technicians 18                      Administrative and support staff 9

**Disciplines:** Animal Science, Bioinformatics, Biological Science, Biotechnology, Cell Biology, Computational, Biology, Epidemiology, **Genetics, Genomics**, Immunology, Microbiology, **Molecular Biology**, Molecular Diagnostics, Pathology, Public Health, Veterinary Medicine, **Virology**

**Funding for the work conducted in the facility:**

U.S. Department of Agriculture (USDA)

Department of Health and Human Services (HHS)

**Department of Defense (DoD) – partly**

**Department of State (DS)**

Non-Profit Associations / Private Sector Companies

**Funding on 2015 BWC – CBM act:**

Research                      \$3,700,000

**Objectives:** Provide scientific solutions to national and international exotic, emerging and endemic poultry viral diseases through a comprehensive research program emphasizing basic and applied research in diagnostics, prevention, and control strategies; prediction of disease outbreaks; molecular epidemiology; and understanding of disease pathogenesis. Develop more specific and faster diagnostic tests; develop vaccines designed for the control and, when feasible, the eradication of disease; improve our understanding of the ecology and epidemiology of viruses at the wild bird-domestic poultry interface; and improve our understanding of the genetic and pathobiological basis of virulence. **The Laboratory has one research unit that conducts biological defense work:** Exotic and Emerging Avian Viral Diseases Research Unit. Additional information about research projects conducted at this location is available at [http://www.ars.usda.gov/main/site\\_main.htm?modecode=60-40-10-00](http://www.ars.usda.gov/main/site_main.htm?modecode=60-40-10-00).

**Microorganisms and/or Toxins Studied:** Select Agents (USDA)

**Works published during the previous 12 months: 15**

Newcastle disease, H5N1 high pathogenicity avian influenza

## MICROORGANISM

African horse sickness virus  
African swine fever virus  
Avian influenza virus (highly pathogenic)  
Bacillus anthracis  
Bacillus anthracis (inactivated or killed)  
Bacillus anthracis Pasteur strain  
Bacillus anthracis  
Brucella abortus  
Brucella melitensis  
Brucella suis  
Burkholderia mallei  
Burkholderia mallei (killed)  
Burkholderia pseudomallei  
Chapare virus  
Classical swine fever virus  
Clostridium producing botulinum neurotoxin  
Coxiella burnetii  
Coxiella burnetii (inactivated or killed)  
Crimean-Congo hemorrhagic fever virus  
Dengue virus  
Dengue virus (inactivated)  
Eastern equine encephalitis virus  
Ebola virus  
Ebola virus (inactivated)  
Foot-and-mouth disease virus  
Francisella philomiragia  
Francisella tularensis  
Francisella tularensis (killed)  
Goatpox virus  
Guanarito virus  
Hantaviruses  
Hendra virus  
Influenza A virus, reconstructed pandemic 1918 strains  
Junin virus  
Kyasanur Forest disease virus  
Lassa virus  
Lujo virus  
Lumpy skin disease virus  
Lymphocytic choriomeningitis virus  
Machupo virus  
Marburg virus  
Monkeypox virus  
Mycoplasma capricolum  
Mycoplasma mycoides  
Newcastle disease virus  
Nipah virus  
Peste-des-petits-ruminants virus  
Omsk hemorrhagic fever virus  
Phoma glycinicola  
Rathayibacter toxicus  
Rickettsia prowazekii  
Rift Valley fever virus  
Sabia virus

## SARS-related coronavirus

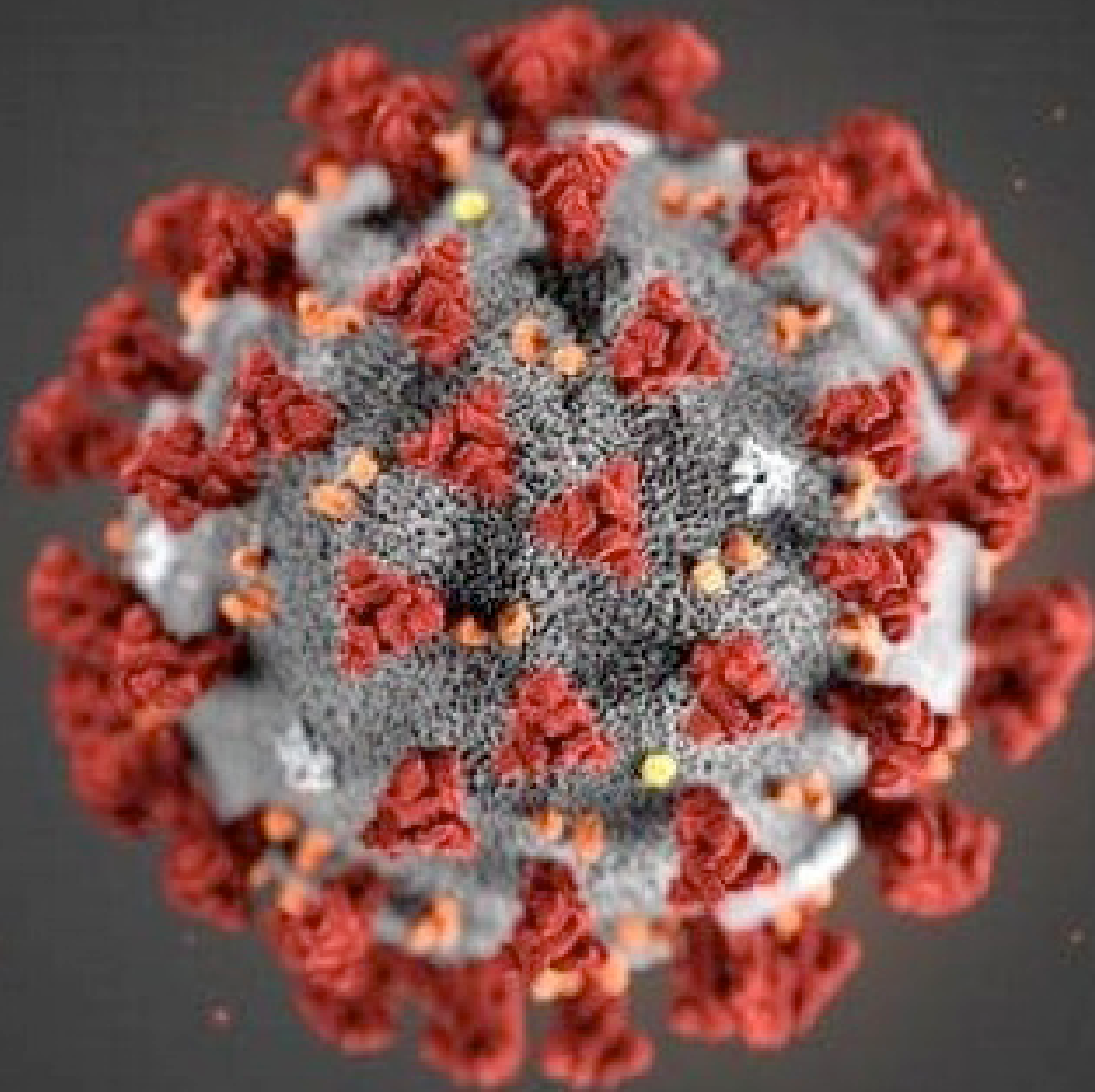
Sheep pox virus  
Tick-borne encephalitis flavivirus, Far Eastern subtype  
Tick-borne encephalitis flavivirus, Siberian subtype  
Variola major virus  
Variola minor virus  
Venezuelan equine encephalitis virus  
Yersinia pestis  
Yersinia pestis (killed)

## TOXINS

Abrin  
Alpha conotoxins  
Botulinum neurotoxins  
Diacetoxyscirpenol  
Ricin  
Saxitoxin  
Staphylococcal enterotoxins A, B, C, D, E subtypes  
T-2 toxin  
Tetrodotoxin

## CATEGORY

USDA Select Agent  
USDA Select Agent  
USDA Select Agent  
Overlap Select Agent + NIAID Category A  
Simulant  
Overlap Select Agent  
Sterne Simulant  
Overlap Select Agent  
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Overlap Select Agent  
Overlap Select Agent  
Simulant  
Overlap Select Agent  
HHS Select Agent  
USDA Select Agent  
HHS Select Agent + NIAID Category A  
HHS Select Agent  
Simulant  
HHS Select Agent  
HHS Select Agent + NIAID Category A  
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PPQ Select Agent  
PPQ Select Agent  
HHS Select Agent  
Overlap Select Agent + NIAID Category A  
HHS Select Agent  
**HHS Select Agent**  
USDA Select Agent  
HHS Select Agent  
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HHS Select Agent + NIAID Category A  
HHS Select Agent  
Overlap Select Agent  
HHS Select Agent + NIAID Category A  
Simulant  
**CATEGORY**  
HHS Select Toxin  
HHS Select Toxin  
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HHS Select Toxin  
HHS Select Toxin  
HHS Select Toxin  
HHS Select Toxin



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