

USAMRMC Capabilities to Support the Chemical and Biological Defense Program

presented to

Joint CBRN Conference and
Exhibition

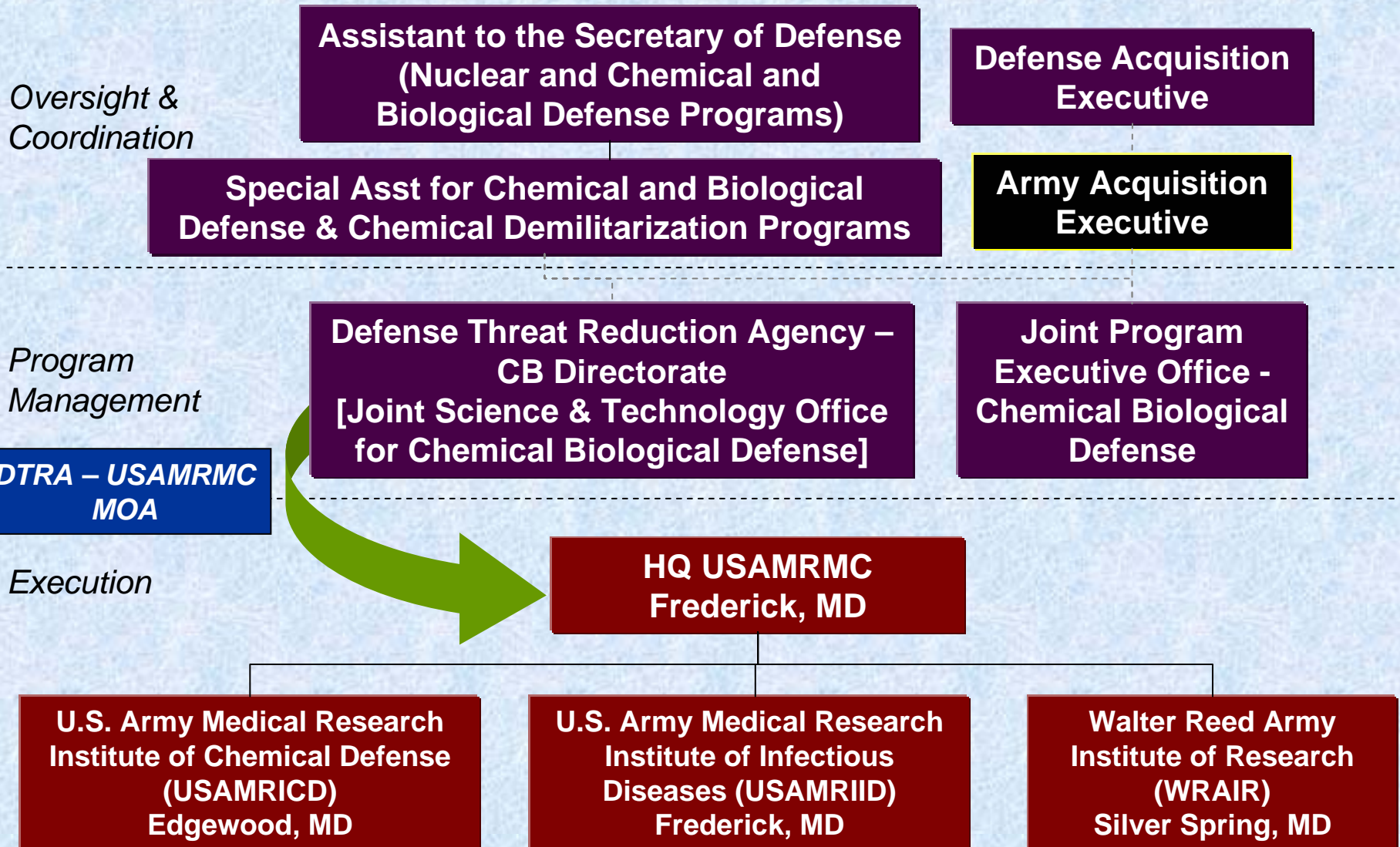
by

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Organization

USAMRMC and the Chemical Biological Defense Program



USAMRMC Laboratories

Key Role in Product Development

Research



Product Testing



Development



Vaccines

Vaccines

Bioshield
Increases \$\$
Incentives to
Manufacturers

Drugs



Increased
Investments
Since FY02

Efficacy
Testing

Pharma
Industry

USAMRMC Unique Strengths

- Large scale medical product testing capability
- High containment labs and animal facilities
- Aerosol challenge for large studies
- FDA regulated safety and efficacy

- NIAID
- Universities
- Industry
- DHS
- DOE
- DOD

U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID)



Unique Expertise

- 34 years of experience safely handling the world's deadliest pathogens in biocontainment
- Most of the Nation's experts in infectious aerosols work at USAMRIID
- Most of the Nation's subject matter experts on biological threats

Facilities

- Aerobiology labs
- Biosafety Level (BSL)-4 labs
- The "Slammer" – The only BSL-4 patient care suite in the Nation

Capabilities

- Large-scale testing and evaluation of medical product evaluation in animal models
- Aerobiology
- Animal Models and Pathogenesis
- Outbreak investigation/support
- Definitive I.D. of new threats/bioforensic analysis



Part of a national system of medical countermeasure development

USAMRIID Activities

Recent/Pending Transitions

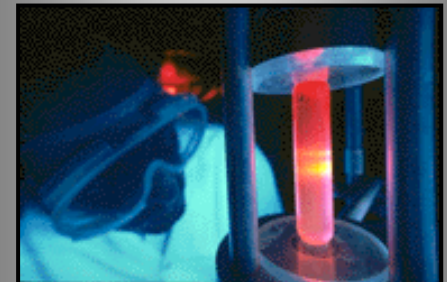
- Recombinant staphylococcal enterotoxin A and B (SEA/SEB) vaccine candidates
- Vaccine candidate V3526 (multivalent VEE vaccine candidate)
- Recombinant protective antigen (rPA) anthrax vaccine candidate
- Immunologically and nucleic-acid-based medical diagnostics (reagents, protocols and devices) for JBAIDS

Current Efforts

- Recombinant ricin vaccine candidate
- Alternative vaccine delivery methods for application with rPA, SEB, and F1-V plague vaccine candidates
- Oral form of cidofovir for smallpox pre-/post-exposure treatment

Partnering

- 126 active CRADAs
- 377 active Material Transfer Agreements



U.S. Army Medical Research Institute of Chemical Defense (USAMRICD)

Unique Expertise

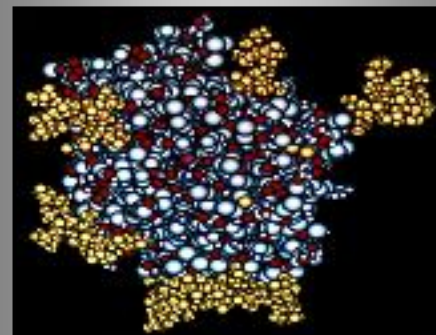
- Neurotoxicology
- Skin protection and decontamination
- Medical management of chemical casualties

Facilities

- Chemical surety facility
- Neurophore electrocorticographic recording system
- Nerve/muscle physiology testing facilities
- Molecular modeling and genomic analysis systems

Capabilities

- Drug discovery and preclinical development
 - Nerve agent pretreatments and therapies
 - Vesicating agent therapies
 - Non-traditional chemical threats
 - Biological neurotoxins
- Biomedical sample analysis for CW agent exposure



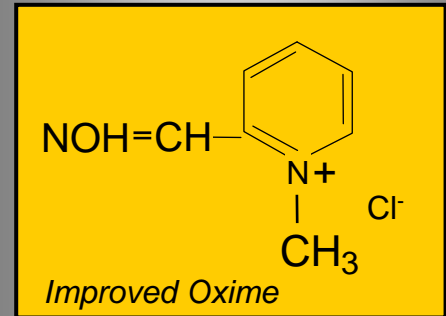
USAMRICD Activities

Recent Transitions

- Plasma-derived nerve agent bioscavenger
- Oxime Replacement for 2-PAM

Current Efforts

- Recombinant nerve agent bioscavenger
- Vesicant countermeasure candidates
 - Chemical scavengers
 - Anti-inflammatories



U.S. Army Center for Environmental Health Research (USACEHR)



Facilities

- Building 568
- Renovations Completed 2005 (>\$13.5 M in Renovation)
- Well Water Supply
- 33,402 ft²



Capabilities

- Molecular Toxicology
- Mass Spectrometers
- Extensive Analytical Chemistry/Protein Chem
- Complete Aquaculture Facilities
- AAALAC International Accredited



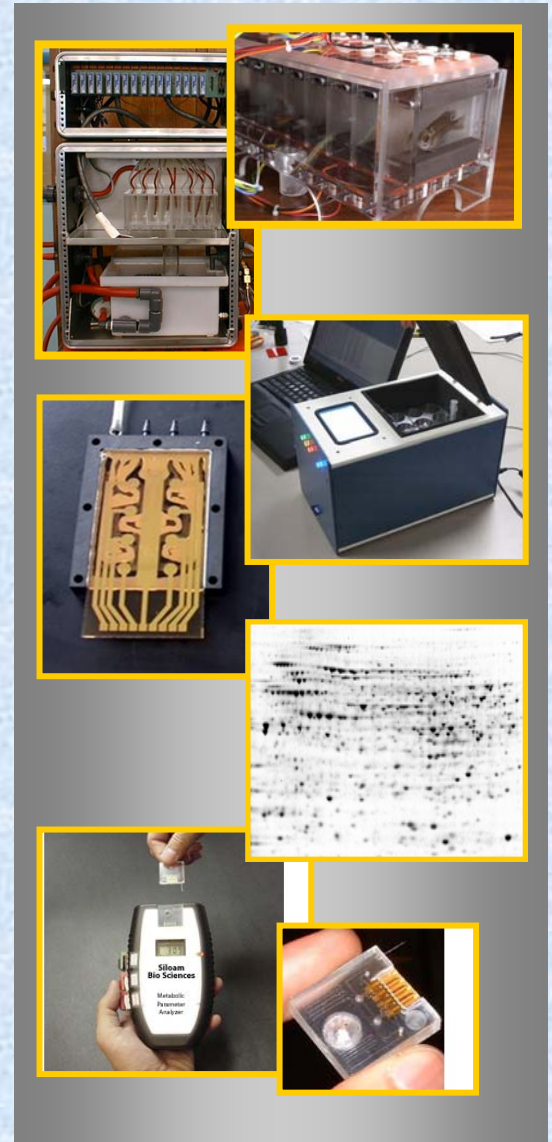
USACEHR Activities

Recent Products

- Intelligent Automated Biomonitor System
- Coliform Analyzer

Future Products

- Environmental Sentinel Biomonitor
- Biomarkers
- Integrated Diagnostic Device



Walter Reed Army Institute of Research (WRAIR)

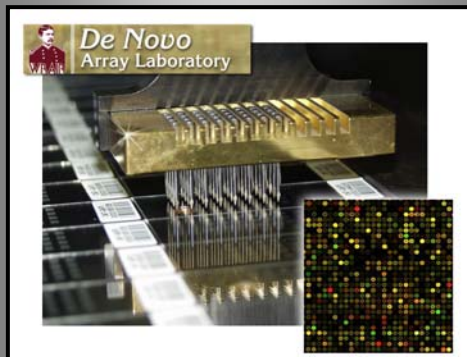


Expertise

- Vaccine and drug discovery and development
- Molecular biology of bacterial, viral, and parasitic pathogens
- Neuroscience

Facilities

- Vaccine Pilot-Scale Production Facility
 - Current Good Manufacturing Practice/Good Laboratory Practice-compliant operations
 - Viral, bacterial, and recombinant vaccines
- De Novo Microarray Laboratory
 - Production of custom cDNA print microarrays for analysis of gene expression and translation



Capabilities

- CW drug discovery and preclinical development
- Vaccine scale-up

WRAIR Activities

Recent Transitions

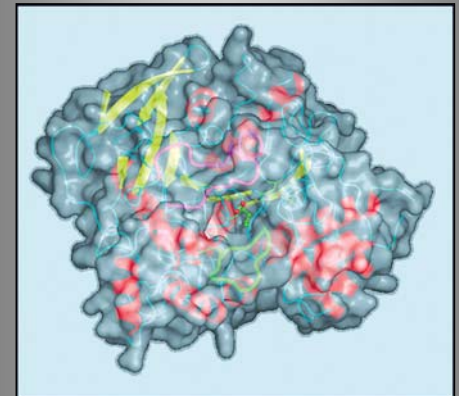
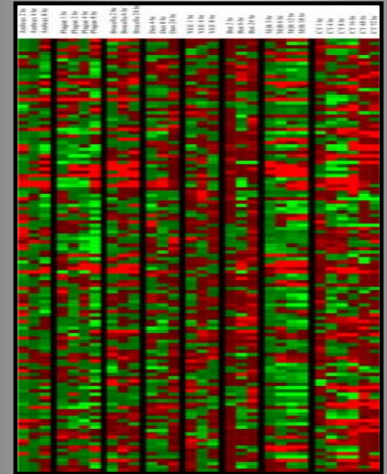
- Plasma-derived nerve agent bioscavenger

Current Efforts

- Host gene expression responses to biothreat agents
- Botulinum neurotoxin therapeutics
- Prophylactic skin patch vaccine for ricin
- Recombinant nerve agent bioscavenger

Partners Needed

- Skin/wound decontamination





SUCCESSFUL LIFECYCLE MANAGEMENT COMMAND



Private Industry



Academia



COLLABORATIVE COMMAND



Defense Acquisition Regulations Directorate

INTEGRATION OF DOD AND FDA REGULATIONS



International

For the USAMRMC, protection of the Homeland against BioWarfare threats means the National Interagency Biodefense Campus (NIBC)

THANK YOU

