



CRITICAL REAGENTS PROGRAM

FACT SHEET

Certified ISO 9001 Organization

ABOUT THE CRP

As a national resource for the biological defense community, the CRP serves as the principal resource of high quality, validated, and standardized biological reference materials, reagents, and assays that meet the technology-development and sustainment needs of the Department of Defense and its partners. The CRP also supports the biological defense community's mission by facilitating the transition of new technologies and coordinating their advanced development, efficient production and timely distribution.

The CRP product portfolio includes antibodies, inactivated antigens, genomic materials, Electrochemiluminescence (ECL) assays, Polymerase Chain Reaction (PCR) assays, Lateral Flow Immunoassays (LFIs), and Biological Sampling Kits.

CONTACT INFORMATION

110 Thomas Johnson Drive
Suite 240
Frederick, MD 21702

Phone: (301) 619-2277

E-mail:

usarmy.detrick.mcs.mbx@mail.mil

Website & Catalog:

<http://www.jpeocbd.osd.mil/packs/default.aspx?pg=1205>

COMMODITY MANAGER

Eric Thompson

Phone: (301) 619-8533

E-mail: eric.i.thompson.civ@mail.mil

Antibody

Description

Antibodies are proteins produced by the immune system after exposure to foreign agents (such as bacteria, viruses and toxins) which work to identify and neutralize them. An antibody recognizes a unique part of the foreign agent, called an antigen. More specifically, each antibody contains a *paratope* that is specific for one particular *epitope* on the antigen molecule. This allows these two structures to interact with precision. Through this binding mechanism, an antibody can either neutralize its target directly or tag the microbe or infected cell for attack by other parts of the immune system.

Biological threat agent-specific antibodies can be produced in animals inoculated with the agent (or a unique antigen encoded by the agent) often in conjunction with an adjuvant to boost the immune response. The animal's natural immune response to the inoculum generates agent-specific antibodies that can be purified and utilized for various biodefense applications such as detection, diagnostics, and therapeutics.

Production

CRP antibodies are produced under ISO Guide 34 and ISO/IEC 17025 quality management systems. A schematic of the process is detailed below. Animal production facilities are in compliance with Animal Welfare Act and other federal statutes and regulations related to animals and experiments involving animals.

Antibody Production



Animals immunized with antigen



Antibodies isolated, purified, and conformance tested



Antibodies stored in Government repository



Antibodies shipped to customers

Technology Applications

CRP antibodies are the core reagents used in technologies such as Electrochemiluminescence (ECL) assays and Lateral Flow Immunoassays (LFIs). Antibodies are developed by a consortium of DoD laboratories and are subjected to rigorous conformance testing prior to incorporation into the CRP catalog, thus ensuring the highest quality. The CRP continually seeks to expand its arsenal of reagents by developing antibodies against diverse biological threat agents.

Catalog Offerings

The CRP Catalog contains a detailed list of antibodies for over 20 biological threat agents, which are available for purchase by Government customers. To place orders online, please visit OSCAR – the Ordering System CRP Assays and Reagents – at <https://pki.jacks.jpeocbd.army.mil/crp/default.aspx>. For more information on how to register for a user account and view OSCAR tutorials, please visit the CRP's website at: <http://www.jpeocbd.osd.mil/packs/Default.aspx?pg=1205>.