Genomic Materials

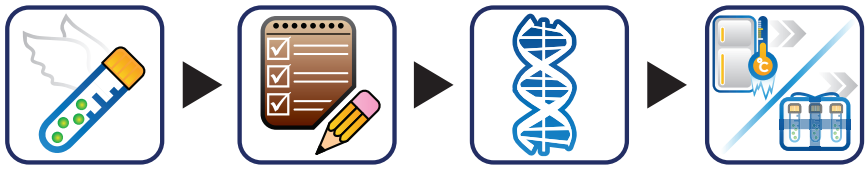
Description

The hereditary information of each living organism is contained in its genome. It is encoded either in DNA or, for many types of viruses, in RNA. The uniqueness of this genetic information encoded by the organism defines its unique phenotypes. The central dogma of Molecular Biology lays out a framework for understanding how information flows from DNA to RNA to Protein, and in some instances, even from RNA to DNA, to create the unique phenotype.

Production

CRP genomic materials (DNA) are derived from highly-characterized bacteria curated in the DoD Unified Culture Collection (UCC) and produced under ISO Guide 34 and ISO/IEC 17025 quality management systems. A schematic of the process is detailed below.

Genomics Production



Technology Applications

CRP genomic materials (DNA) support a multi-functional role within the biological defense community. Thanks to recent advances in NextGen sequencing, the cost-effective deciphering of the entire sequence of genetic information is possible. The unique genetic sequences can be used to detect/diagnose pathogens that cause disease using a variety of molecular approaches such as Polymerase Chain Reaction (PCR), multi-locus sequence typing (MLST) or even whole genome sequencing. The whole genome sequence information can also be used in the development of vaccines and therapeutics to combat infections caused by these pathogens.

Catalog Offerings

The CRP Catalog contains a detailed list of over 325 purified bacterial DNA, 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.

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.

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