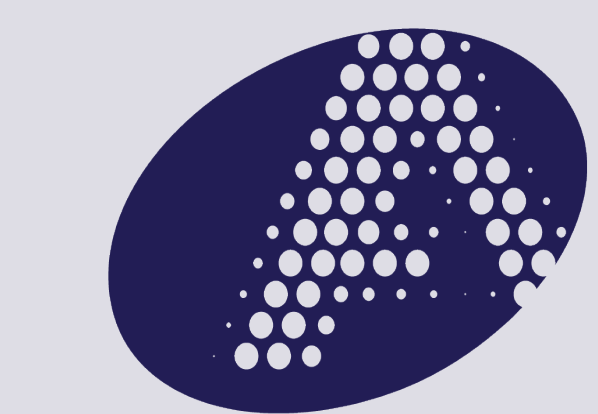


BEI Resources Program: Valuable Resource for HIV Research

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ABSTRACT

Advancements in human immunodeficiency virus (HIV) research are attributed to a collective global effort and the pivotal role played by the NIH through its HIV Research Agenda. In 1988, the NIH's National Institute of Allergy and Infectious Diseases (NIAID) established the NIH AIDS Research and Reference Reagent Program Repository to foster and expedite multidisciplinary research on HIV and related issues. Initially known as NIH AIDS Research and Reference Reagent Program then shortened to the AIDS Reagent Program (ARP) in 2012. The program became the NIH HIV Reagent Program (HRP) in 2020. From a small list of offerings, the catalog has evolved into an unparalleled global repository offering advanced HIV reagents not commonly found in commercial sources. In January 2024, the HRP transitioned and integrated into the BEI Resources Program that supports infectious disease research of over 270 pathogens, creating a single catalog of reagents for the global research community. This important integration will allow researchers to have streamlined access to all priority pathogens for human health under one program.

BEI Resources serves as a vital centralized repository of quality-assured organisms, reagents, tools, services, and information related to the NIAID research portfolio. Infectious diseases supported by BEI Resources include Category A, B, and C priority pathogens, emerging infectious diseases, HIV, and non-pathogenic microbes. Currently, there are more than 9,000 HIV and HIV-related reagents from hundreds of contributors available through BEI Resources. In addition to supplying the HIV research community with materials, BEI Resources also encourages and supports the deposit of materials from researchers and institutions. Depositing material with BEI Resources has many advantages to the researcher and the research community, including access to high-quality and authenticated materials, secure storage, community access, and distribution, all while protecting the intellectual property rights of the depositor.

MISSION OF BEI RESOURCES

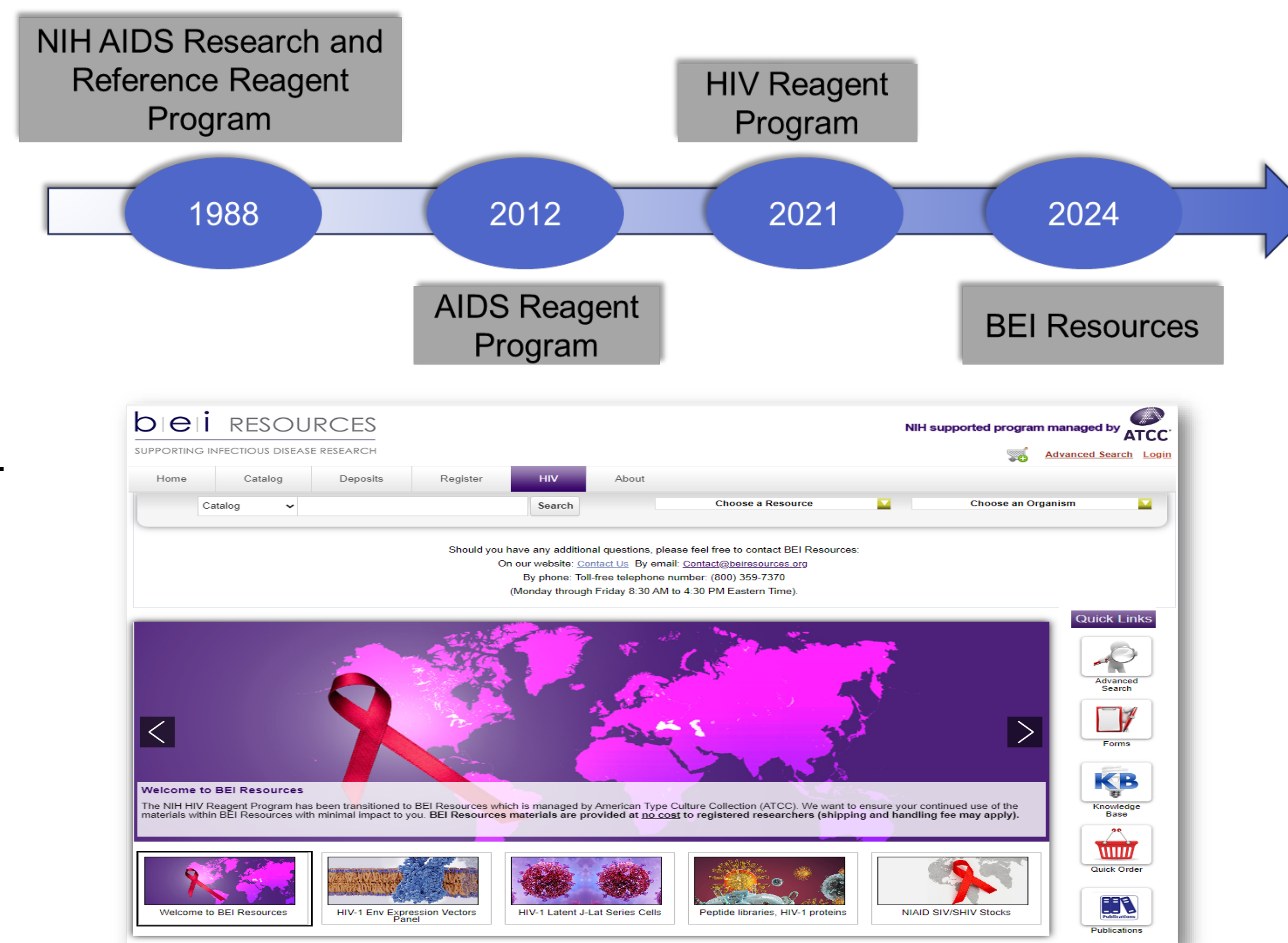
- BEI Resources provides NIAID and registered researchers worldwide with a central repository for the acquisition, authentication, and distribution of a broad range of unique and quality-assured pathogen and related research materials that will aid in the development and evaluation of vaccines, therapeutics, and diagnostics (Fig 1).
- BEI Resources covers NIAID Category A, B, and C priority pathogens, including emerging infectious diseases (EIDs).
- BEI Resources conducts characterization and quality control assessments on all distributed materials, which not only facilitate the accuracy and reproducibility of research data but also enhance the reliability of scientific investigations.

Figure 1. BEI Resources procures, expands, authenticates and distributes research strains and reagents for investigators conducting pathogen and vector research.



HISTORY OF NIH HIV REAGENT PROGRAM

In 1988, the NIH AIDS Research and Reference Reagent Program Repository, initiated by NIAID, evolved from a modest collection of HIV research materials into an unparalleled global repository, facilitating research on HIV and related pathogens with advanced reagents not readily available commercially.



HIV REAGENTS IN BEI RESOURCES

Below are different types of HIV and HIV-related reagents within the BEI Resources inventory, which are available to the scientific community.

- ✓ **HIV-1, HIV-2, SIV, and SHIV virus strains**
- ✓ **Infectious molecular clones and viral vectors**
- ✓ **Expression vectors for HIV and HIV-related host proteins**
- ✓ **Recombinant viral and host-related proteins**
- ✓ **Antibodies for a wide range of applications**
- ✓ **Uninfected, infected, latent, reporter, and related host protein-expressing cell lines**
- ✓ **Peptide arrays/pools spanning HIV and SIV viral proteins from different clades**
- ✓ **Antiviral compounds targeting different stages of the HIV life cycle**
- ✓ **Viral load standards**

REGISTRATION IN BEI RESOURCES

BEI Resources offers reagents to registered individuals and organizations conducting research on Emerging Infections and Microbiology. Registration is open to those affiliated with public, private, academic, non-profit, or for-profit institutions, who must demonstrate appropriate facilities and safety programs. Institutional registration is encouraged for multiple researchers within an organization.

- HRP registrants who have not registered with BEI Resources can review and sign the Acknowledgement of the terms and conditions of the BEI Resources Material Transfer Agreement (MTA) and return it by email to contact@beiresources.org.
- Those not previously registered with HRP can find instructions to register with BEI Resources on the registration section of the website and complete a new registration application packet for full access to the HRP materials.
- BEI Resources distributes a variety of materials at several biosafety levels:
 - Level 1: Non-infectious BSL-1 research grade reagents,
 - Level 2: Pathogen or permit-related items that require BSL-2 laboratory space
 - Level 3: Select Agent and BSL-3 reagents

DEPOSIT OF HIV REAGENTS TO BEI RESOURCES

BEI Resources offers the scientific community an opportunity to participate in building this program by depositing materials. Depositing provides several advantages:

- Promotes access and use of the materials.
- Relieves researchers of the burdens of distributing materials.
- Ensures quality control of the materials.
- Offers an alternative to institutions for secure storage of materials.
- Ensures regulatory compliance in shipping.
- Protects intellectual property of the depositor

SUMMARY

- BEI Resources provides HIV materials for investigators worldwide. Metrics on program usage are critical for assessment and continued resource availability.
- As a program requirement, literature citations to BEI Resources materials define origin of reagent and provide depositor recognition.
- Program usage based on research publications indicate that materials are used for basic HIV research, vaccine development, drug discovery, therapeutics and diagnosis.



ACKNOWLEDGEMENTS

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