

Biodefense/Public Health DataBase (BioHealthBase) is a Bioinformatics Resource Center (BRC) for Biodefense and Emerging/ Re-emerging Infectious Diseases whose mission is to assist scientific researchers in the development of vaccines, therapeutics, and diagnostics for a select subset of Category A - C pathogens.

WHO WE ARE

The Biodefense/Public Health DataBase (BioHealthBase) BRC focuses on six priority pathogens to help fill in gaps in genomic and other data critical to scientific researchers. The six pathogens are *Francisella tularensis* bacteria; *Influenza* (flu) virus; *Mycobacterium tuberculosis* (TB) bacteria; *Microsporidia* parasites; *Giardia lamblia* (giardiasis) parasite; and *Ricinus communis* (castor bean) plant. The organisms were selected to represent a cross-section of the major groups of human pathogens, including bacteria, viruses, protozoan parasites and plants (toxins).

Organisms in Current Release

- **Virus**
 - *Influenza virus* (A, B, and C)
- **Bacteria**
 - *Francisella tularensis*
 - *Mycobacterium tuberculosis*
- **Protozoan Parasite**
 - *Microsporidia*

Organisms for Future Releases

- *Giardia lamblia*
- *Ricinus communis*

Future releases of BioHealthBase are planned to include an automated genomic annotation pipeline, comparative genomics analysis, comprehensive datasets from gene expression experiments, proteomics data tools, enhanced visualization tools for 3D protein structures, and molecular interactions and cellular networks with a user-friendly interface for data retrieval and analysis.

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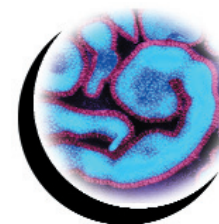
PROJECT SPONSOR

National Institute of Allergy
and Infectious Diseases
National Institutes of Health
Department of Health and Human Services

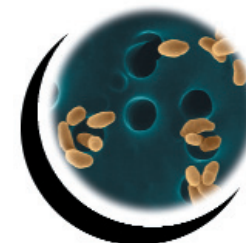
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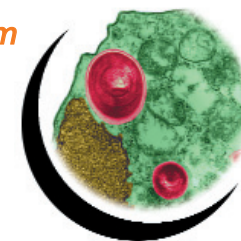
*Influenza
Virus*



*Francisella
tularensis*



*Mycobacterium
tuberculosis*



Microsporidia

BioHealthBase is funded by the National Institute of Allergy and Infectious Disease (NIAID) Division of Microbiology and Infectious Diseases (DMID).

BioHEALTHBASE OFFERS

- Integrated data sets from NCBI, UniProt, Pfam, BioCyc, IEDB, and other sources
- Web-based data-mining and visualization tools
- Structural features and functional annotations for gene and protein sequences
- Metabolic and signaling pathway annotation
- Host-pathogen interaction models
- Genome browser (with multiple annotation tracks)

INFLUENZA VIRUS RESOURCES

- Influenza sequence alignments and polymorphism frequencies
- Creation of influenza consensus based on sequence multi-alignments
- MHC class I epitope prediction for influenza using NetCTL
- Validated epitopes from the Immune Epitope Database (IEDB)
- Influenza life cycle pathways and host-pathogen interactions in the Reactome database
- Concatenated reference sequences

BACTERIAL RESOURCES

- Protein localization predictions
- Operon (regulon) prediction



BIOHEALTHBASE HOME **FEEDBACK** **ORGANISMS**

Release Notes
FAQ
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Related Links
Data Loads
Science Support

Organisms

- Influenza Virus
- Francisella tularensis
- Mycobacterium
- Microsporidia
- Giardia

Our Mission

The primary mission of the BioHealthBase system is to assist scientific researchers in their development of vaccines, therapeutics, and diagnostics. The National Institute of Allergy and Infectious Disease (NIAID) Division of Microbiology and Infectious Diseases (DMID) recognizes the challenge posed by bioterrorism, the emergence of disease due to drug-resistant variants of etiologic organisms. DMID has envisioned a consortium of Bioinformatics Resource Centers (BRCs) for Biodefense and Emerging/Re-emerging Infectious Diseases that will provide information technology (IT) support for experimental studies of pathogenic organisms that could be used for biowarfare and bioterrorist activities, many of which also pose an ongoing threat to public health.

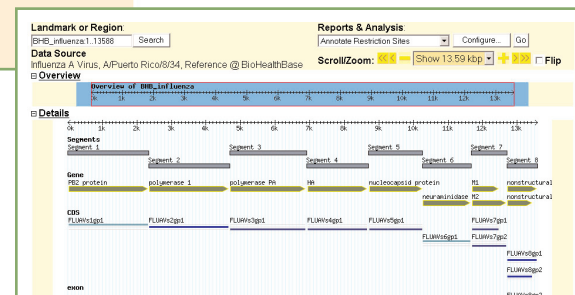
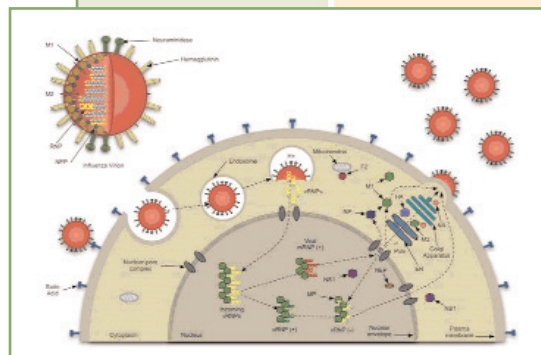
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News/Publications/Releases

- July 15 -19, 2006 : The American Society for Virology 25th Annual Meeting, University of Wisconsin-Madison : <http://virology.wisc.edu/asv06/index.html>
- June 30, 2006 : Release 2.0 of BioHealthBase
- June 20-24, 2006: ISOP and IWOP-9 (International Workshop on Opportunistic Protists)

Genomes in BioHealthBase

Organism	Kingdom	# Strain
Francisella tularensis	Bacteria	2
Mycobacterium tuberculosis	Bacteria	2
Mycobacterium avium	Bacteria	1
Mycobacterium leprae	Bacteria	1
Mycobacterium bovis	Bacteria	1
Encephalitozoon cuniculi	Fungi	1
Influenza A Virus	Virus	7211
Influenza B Virus	Virus	1127
Influenza C Virus	Virus	152



www.biohealthbase.org

COLLABORATORS WELCOMED

We are currently seeking researchers who would like to work with our team to develop the BioHealthBase application. If you are interested in providing feedback on existing functionality, recommendations for new functionality, or data for community use, please click on the Feedback link on our site

and email us the following information:

- Name
- Phone Number
- Address
- Institute/Lab Affiliation
- Research Interest

We look forward to working with the scientific community as we move forward in developing a robust central repository for a wide variety of scientific data and a platform of software tools that support investigator-driven data analysis.