Virus Transmission

Parent Project Number	Sub-Project ID	Contact PI/Project Leader	Awardee Organization
8P50AI150464-13	7293	BJORKMAN, PAMELA J	UNIVERSITY OF UTAH

Description

Abstract Text

ABSTRACT The HIV/AIDS **pandemic** remains a global burden on human health.1 Although antiretroviral therapy (ART) reduces deaths from HIV infection, prophylactic vaccine(s) and a functional cure for the millions infected are lacking.2 Success in these areas will require improved understanding of HIV transmission and dissemination and the mechanism of CD4 T cell depletion, which is the hallmark of immune deficiency.3 In addition, developing antiviral therapies and vaccines against HIV envelope (Env), the only viral protein on the surface of the HIV virion4,5, requires understanding its conformational dynamics and how it is activated for virus–host cell fusion. We propose to fill these knowledge gaps through imaging experiments that will: 1) Visualize the dissemination of HIV-1 following transmission in humanized mouse models and non-human primates6-9, 2) Determine the cause of CD4 depletion and visualize cellular events underlying viral restriction, 3) Delineate how the HIV Env trimer is activated for fusion10,11, and 4) Define how Env is inhibited by host cell restriction proteins of the SERINC family.12-14 This approach will reveal bottlenecks in virus dissemination, mechanisms of restriction, and vulnerabilities in activating HIV Env that can be exploited therapeutically.

Public Health Relevance Statement

Data not available.

NIH Spending Category

Clinical Research HIV/AIDS Health Disparities Infectious Diseases Minority Health

Project Terms

3-Dimensional AIDS/HIV problem Animal Model Animals Antiviral Therapy Architecture Area Biological Assay Bioluminescence CD4 Positive T Lymphocytes Cell fusion Cell membrane Cells Cellular Membrane Cellular biology Cessation of life Child Cryoelectron Microscopy Data Docking Electrons Elements Event Family Fluorescence Future HIV HIV Infections HIV-1 Health Human Image Imagery Imaging Techniques Immune In Vitro Individual Integral Membrane Protein Kinetics Knowledge Laser Scanning Microscopy Letters Light Lipids Mediating Micro Electron Diffraction Microscopy Molecular Conformation Monitor Mothers Moths

Read More

Details

Contact PI/ Project Leader

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Other PIs

Not Applicable

Program Official

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Thank you for your feedback!

Organization

Name
UNIVERSITY OF UTAH

Department Type
Unavailable

State Code
UT

City
SALT LAKE CITY

Organization Type
Domestic Higher Education

Congressional District
02

Country
UNITED STATES (US)

Other Information

FOA
RFA-GM-17-003

Administering Institutes or Centers
NATIONAL INSTITUTE OF ALLERGY AND INFECTIOUS DISEASES

Project Start Date

Study Section
Special Emphasis Panel[ZRG1-BCMB-T]

DUNS Number
009095365

CFDA Code

Project End Date

Budget Start Date **01-August-2019**

Fiscal Year
2019

Award Notice Date
09-August-2019

Budget End Date **31-July-2020**

Project Funding Information for 2019

Total Funding
$657,558

Direct Costs
$657,558

Indirect Costs
$0

Year	Funding IC	FY Total Cost by IC
2019	NATIONAL INSTITUTE OF ALLERGY AND INFECTIOUS DISEASES	$657,558

NIH Categorical Spending

Click here for more information on NIH Categorical Spending

Funding IC	FY Total Cost by IC	NIH Spending Category
NATIONAL INSTITUTE OF GENERAL MEDICAL SCIENCES	$9,551	Clinical Research; Health Disparities; Infectious Diseases; Minority Health;
NATIONAL INSTITUTE OF ALLERGY AND INFECTIOUS DISEASES	$54,034	Clinical Research; HIV/AIDS; Infectious Diseases;
NATIONAL INSTITUTE OF ALLERGY AND INFECTIOUS DISEASES	$593,973	Clinical ResearchHIV/AIDSInfectious Diseases

Sub Projects

No Sub Projects information available for 8P50AI150464-13 7293

Publications

No Publications available for 8P50AI150464-13 7293

Patents

No Patents information available for 8P50AI150464-13 7293

Outcomes

The Project Outcomes shown here are displayed verbatim as submitted by the Principal Investigator (PI) for this award. Any opinions, findings, and conclusions or recommendations expressed are those of the PI and do not necessarily reflect the views of the National Institutes of Health. NIH has not endorsed the content below.

No Outcomes available for 8P50AI150464-13 7293

Clinical Studies

Thank you for your feedback!

No Clinical Studies information available for 8P50AI150464-13 7293

News and More

Related News Releases

No news release information available for 8P50AI150464-13 7293

History

No Historical information available for 8P50AI150464-13 7293

Similar Projects

No Similar Projects information available for 8P50AI150464-13 7293

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