



Slowing the Spread of AIDS Through Translational Research

Because women are particularly vulnerable to HIV infection and the number of women with AIDS continues to rise at a staggering rate, finding effective methods to protect them against the disease is a critical health objective both in this country and around the world. Efforts are underway on many fronts; this issue of the Reporter highlights the work of researchers at NCRR-supported resource centers who are developing affordable and easy-to-use microbicide gels and creams to prevent sexual transmission of HIV.

The article that follows is not only a story of remarkable science, but it also illustrates the process by which discoveries at a cellular level are translated into preclinical studies and then clinical trials. The spectrum of studies described includes work in mice to understand how to prevent cell-to-cell transfer of HIV; the use of monkeys to find ways to block viral access; and large-scale human clinical trials that test different compounds for their ability to prevent widespread HIV infection.

It is also the story of how pre-clinical and clinical resources enable the discoveries made by talented and devoted researchers, which ultimately impact human health. The same kind of support and synergy will be facilitated in the Clinical and Translational Science Awards (CTSAs) announced last year. In fact, the CTSAs are designed to alleviate the roadblocks inherent in translational research and further accelerate the research process. Currently located at 12 academic health centers around the country, the CTSA grantees are developing the resources to train and advance a cadre of well-trained multi- and inter-disciplinary investigators and research teams and giving them access to innovative research tools and information technologies. The CTSA consortium will eventually grow to 60 sites, dedicated to creating transformative, novel, and integrative homes for clinical and translational science.

Our goal with the CTSAs and all resources supported by NCRR is to provide researchers with the tools and connections—whether to other researchers or to patients and communities—to speed the process of discovery and multiply opportunities to improve human health, whether it is protecting women from HIV or the hundreds of other diseases and conditions that affect people around the world. We would like to see the number of women living with HIV, over 17 million today, decrease. The research you will read in the next few pages gives us reason for optimism.

Barbara Alving, M.D.

Barbara Alving, M.D.
Acting Director, NCRR

WINTER 2007, VOL XXXI, NO.1

CRITICAL RESOURCES

4 Exploring the Potential of HIV Microbicides

As the number of HIV-infected women escalates worldwide, vaginal microbicides may help slow the spread of AIDS.

Resource Briefs

8 X-Ray Microscope Scans Cellular Machinery

9 Unique Partnerships Move Spectroscopy From Lab to Clinic

SCIENCE ADVANCES

10 Triple Killer

Physicians create new cells to stave off common viruses that threaten transplant patients.

Research Briefs

12 Virus Anatomists

13 Fertility Clues

14 News from NCRR

NCRR Reporter



This quarterly publication of the National Center for Research Resources fosters communication, collaboration, and resource sharing in areas of current interest to scientists and the public.

EDITOR
Joyce McDonald, NCRR
MANAGING EDITOR
Victoria L. Contie
SCIENCE WRITER
Al Staropoli
PUBLICATIONS SUPERVISOR
Shirley Coney-Johnson
PUBLICATION DESIGN
David Herbick Design

Please send comments and ideas about future articles to:

Office of Science Policy and Public Liaison, NCRR/NIH
One Democracy Plaza
6701 Democracy Blvd., 9th floor
Bethesda, MD 20892-4874
Telephone: (301) 435-0888
Fax: (301) 480-3558
E-mail: info@ncrr.nih.gov
Web site: www.ncrr.nih.gov

On the Cover: At an NCRR-funded primate center, researcher Ronald Veazey and his colleagues have developed experimental microbicide gels that can protect primates against vaginal infection with simian HIV. His team has also developed oral formulations of a compound in the gels, which have had similarly promising results.

PHOTO BY PHILIP GOULD