

**Health Need:** HIV/AIDS and sexually transmitted infections (STIs) are among the most critical public health issues facing developing countries today. The World Health Organization (WHO) estimates that 340 million new cases of curable STIs occur each year. The risk of HIV transmission is dramatically higher for those already infected with an STI. The impact on women in developing countries is enormous. According to UNAIDS, women account for more than half of all HIV-infected adults in sub-Saharan Africa and for more than a third in South and Southeast Asia. Clearly, there is a desperate need for solutions—solutions that would empower women to protect themselves independently of their partner's willingness to use a condom.

**Technology:** Topical Microbicides are substances applied vaginally or rectally to reduce the risk of HIV infection and/or other STIs. The two common features of this class of diverse substances are: (1) they are chemical barriers applied topically, and (2) they are user initiated. This last feature is crucial to understanding the potential “value-added” impact of microbicides as an additional tool for HIV prevention.

After more than 10 years of research and development, approximately 60 microbicide products are in some stage of development. Because a successful microbicide will need to meet a range of performance requirements, developers face numerous technical challenges.

**Current Status:** Our goal is to accelerate the development of vaginal microbicides by determining if any of the products currently marketed in India can be used to prevent HIV infections. Because it allows developers to build on progress made in formulation development, production, commercialization, and appropriate use, this approach streamlines many of the challenges related to product development and introduction.

To date, we have surveyed and evaluated over 2,200 marketed vaginal, skin, and mucosal products from India and conducted research on the acceptability of vaginal products and the epidemiology of HIV in India. Of the 2,200 products, approximately sixty were selected for *in vitro* HIV testing, of which 15 were further tested *in vitro* for lactobacillus inhibition, anti-HSV, GC, and CT activity. Additional testing is in progress to determine vaginal irritation using an abbreviated rabbit vaginal irritation test, condom compatibility, and to validate activity with standardized preparations. Further evaluation is also being conducted on the requirements for synthesis, manufacturing, purification, and reformulation. This will culminate in the selection of two to three products to move forward into the second phase of the project. A key partner in this project is the Program for the Topical Prevention of Conception and Disease (TOPCAD).

For additional information please visit the PATH website and view the EMPOWER Fact Sheet on Microbicides and the Microbicide India March 2003 Poster.

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## Microbicides

### About the Technology:

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### About PATH:

PATH is a nonprofit, nongovernmental, international organization. PATH's mission is to improve health, especially of women and children in developing countries. To achieve these goals, PATH works with public-sector agencies and with private companies. For more information on PATH and its programs, as well as links to other development agencies and private voluntary organizations, visit the World Wide Web at: <http://www.path.org>