



Researchers Using Tobacco to Cultivate Agent for HIV Microbicide

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The National Institutes of Health (NIH) has awarded a five-year, \$14.7 million grant to an international team to develop a microbicide gel containing an HIV-fighting protein that scientists will cultivate in tobacco plants. Led by the University of Louisville, the team will focus their efforts on a carbohydrate-combining protein known as griffithsin (GRFT) and found in red algae. Laboratory research has shown that GRFT binds to the surface of HIV and prevents the virus from entering other cells.

To develop a microbicide for use during sex, the scientists will manufacture a synthetic version of the protein and inject it into a tobacco mosaic virus, which can then deliver the protein into tobacco leaves. After 12 days, researchers will then harvest the leaves and draw out the multiple replicas of the GRFT that have proliferated within. Ultimately, they hope to enter the microbicide into human trials.

As is typically the case when a widely available consumer product finds its way into HIV research headlines, confusion may arise as to whether tobacco itself is the next antiretroviral, vaccine or microbicide. In this research, tobacco is just being used as a breeding ground for an HIV-fighting agent that is not itself related to the plant. Tobacco products have not been shown to prevent or treat HIV. Quite the contrary: [Research shows](#) that smoking takes far more years off the life span of people being treated for HIV than the virus does.

To read the press release, [click here](#).

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