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U.S. University Project to Identify Active Compounds in Propolis



Secrets of the Hive

Propolis Might Have Life-Saving Properties

By Sara Specht, [Solutions](#) (USA), Winter 2008

...About seven years ago, a researcher from the Ukraine working at the University of Minnesota medical school on lab trials to combat HIV came down with a cold. She, like countless people around the world, had always relied on a traditional treatment for such woes, a substance found in any honeybee hive: propolis.

Propolis, sometimes known as bee glue, is a thick, sticky resin that bees collect from tree buds and use to cement holes in the hive and defend it against invading parasites and diseases. Traditional healers from South America to China, Japan to Eastern Europe, have valued propolis as a remedy for such ailments as gum problems and dental health, skin issues and oral sores, as well as viruses and the common cold.

The researcher tracked down propolis at the Minneapolis farmers' market and made herself a tincture to soothe her viral woes. Then she brought her cure to work with her and ran a test: propolis versus HIV. Propolis won.

Propolis demonstrated antiviral activity against HIV, prompting a study on propolis that paired the medical school with a team of researchers from CFANS. That project showed promising results, but propolis is an incredibly complex substance, and the mystery of precisely which elements are active remained unsolved. The researchers involved, though, didn't stop considering the study's implications.

"I started thinking, 'wait, if propolis is so good for humans, it's got to also be good for bees,'" explains [Marla Spivak](#), co-principal investigator in a new two-year project to identify the active compounds in honeybee propolis...

Using propolis supplied by Spivak's contacts from countries around the world, as well as from her own hives on the St. Paul campus, the study will identify any variations that arise from different plant sources in propolis from different locations, as well as any role the bees may have in altering its chemistry. The three professors collaborate with Lana Barkawi, a post-doctoral biochemist in Cohen's lab, and toxicology Ph.D. student researcher Mike Wilson to create their new screening process.

The ultimate goal of the rapid assay will be to identify any new compounds—compounds that have not been identified or tested against HIV—that show anti-microbial activity, both toward bacteria and viruses using insect pathogens. Then the researchers will submit those compounds to an external service to do specific anti-HIV tests on enzymes unique to the virus...