

Vaccine being developed to help smokers quit

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(PhysOrg.com) -- Glaxo-SmithKline has joined forces with Nabi Pharmaceuticals to produce a vaccine to help smokers give up their addiction permanently.

The [vaccine](#), NicVAX, works by preventing nicotine from entering the brain, and hence stops the smoker deriving any of the pleasure sensations that are so addictive. The injection lasts around a month, and [smokers](#) would probably need an injection every month for six months to ensure the addiction is broken permanently.

The vaccine stimulates the immune system to manufacture [antibodies](#) to the tiny nicotine molecule, the major addictive component of [tobacco smoke](#). The antibodies bind to nicotine, and the combination is too large to pass from the blood into the brain.

Trials of five injections of the vaccine or a placebo carried out by nine

institutions, including the University of California, showed the product helped 50% of smokers to give up for the trial period. In a second trial volunteers were given six injections of vaccine, and in this study 80% of the volunteers receiving the vaccine attained satisfactory nicotine antibody levels.

President of the Glaxo-SmithKline Biologic Division, Jean Stephanie, said that if the vaccine is approved and marketed it could help millions of people to give up the habit permanently. Estimates suggest up to 70% of smokers attempt to give up each year, but only 5-15% succeed in lasting more than a year without reverting to [smoking](#).

There are many other products to help smokers give up smoking, such as gums, nasal sprays, and patches, but many smokers find it difficult not to return to the habit. These quit smoking aids provide nicotine by alternative methods to smoking a cigarette. Having a dose of nicotine reduces the withdrawal symptoms and allows the body to adjust to not smoking. Dosages are progressively reduced and then stopped altogether. Many people take up the habit again as the dosage is reduced or stopped. NicVAX works in a completely different way to the other products since it prevents the [nicotine](#) entering the brain.

A vaccine to help people stop smoking permanently could save millions of lives globally and cut the financial burden on health care systems caused by smoking related conditions. If late-stage tests are successful, NicVAX could be on the market in just over a year.

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