

US scientists develop drugs to help smokers quit

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The discovery targets a liver enzyme called CYP2A6



Researchers at Washington State University created more than a dozen candidate drugs with the potential to curb smokers' desire for nicotine by slowing how it is broken down in the body. They hoped that the substances could help people reduce their consumption of tobacco, if not quit altogether.

The discovery targets a liver enzyme, called CYP2A6, which metabolizes nicotine. Researchers found that people who have fewer copies of a gene for the enzyme tend to smoke less and are less likely to be addicted to smoking.

Nicotine triggers the release of dopamine and serotonin, two pleasure-causing chemicals produced by the body. But as it gets metabolized, users can experience withdrawal symptoms like tingling in the hands and feet, sweating, anxiety, and irritability.

Denton and Philip Lazarus, co-corresponding author of the paper and Boeing distinguished professor of pharmaceutical sciences, designed dozens of molecules that bind to CYP2A6 and inhibit its ability to metabolize nicotine.

Once the Food and Drug Administration verifies a drug's safety, clinical trials would begin to see how it works in a human.

"If you inhibit CYP2A6, it shouldn't bother your overall health. If we could specifically target this enzyme, people should be fine, and it will possibly help them stop smoking or at least decrease their amount of smoking," said Philip Lazarus, co-author of the study.