

# Injections of licorice ingredient show promise as treatment for cocaine addiction

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An ingredient in licorice shows promise as an antidote for the toxic effects of cocaine abuse, including deadly overdoses of the highly addictive drug, researchers in Korea and Pennsylvania are reporting. Their study is in the Jan. 2 issue of ACS' *Journal of Proteome Research*.

In the new study, Meeyul Hwang, Chae Ha Yang, and colleagues note that there is currently no effective medicine for treating cocaine abuse or addiction. Recent animal studies conducted by the researchers show that a licorice ingredient called isoliquiritigenin (ISL) can block the nervous system's production of dopamine. That neurotransmitter is involved in emotion, movement, and other brain activities.

Cocaine and other addictive drugs stimulate dopamine and help produce the pleasurable and addictive effects. Drugs that block dopamine block this response. The scientists used rats as model animals to show that rats injected with ISL just prior to cocaine-administration showed 50 percent less of the behavioral effects associated with the illicit drug. They also showed that ISL injections protected nerve cells in the brain from cocaine-associated damage.

More information: *Proteome Research*, "Proteomic and Behavioral Analysis of Response to Isoliquiritigenin in Brains of Acute Cocaine Treated Rats"

Provided by ACS

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