

Edible fungus foils dangerous grapefruit-drug interactions

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An edible fungus added to grapefruit juice could reduce side effects people have when drinking that juice while taking prescription drugs, scientists report.
Credit: Royal Botanic Gardens, Melbourne

Scientists in Florida report that adding an edible mushroom-like fungus to grapefruit juice may help to reduce the serious side effects that can occur when people taking certain prescription drugs drink grapefruit juice. Their study is in the January 14 edition of the ACS' bi-weekly *Journal of Agricultural and Food Chemistry*.

In the study, Kyung Myung and colleagues explain that furanocoumarins (FCs) — chemicals found in grapefruit and some other citrus — block a

key enzyme critical for metabolizing, or breaking down, certain prescription medications. This "grapefruit/drug" interaction — sometimes called the "grapefruit effect" — can turn normal drug doses into toxic overdoses. Researchers have tried to remove FCs using chemical, physical and microbiological methods. Myung and colleagues, for example, had previously discovered that an inedible fungus can be used to remove most of the FCs from grapefruit juice.

Now they report that the edible fungus *Morchella esculenta*, which is from the same major fungal group as the previously tested inedible fungus, removed most of the furanocoumarins from the grapefruit juice. It also reduced grapefruit juice's inhibition of the enzyme by 60 percent. Dried *M. esculenta* also worked, leading the researchers to suggest that it could be useful in removing the compound from grapefruit juice and identifying the specific components in the fungi that bind to furanocoumarins.

Article: "Removal of Furanocoumarins in Grapefruit Juice by Edible Fungi", pubs.acs.org/stoken/presspac/p.../10.1021/jf802713g

Source: ACS

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