

Engineered molecule could protect key food crops from intensifying droughts as climate changes

An engineered small molecule called opabactin that targets the receptor for the hormone abscisic acid (ABA), which plants release in stressful conditions, limited water loss in Arabidopsis, tomato, and wheat, and improved wheat's tolerance of drought-like conditions in the lab, according to a study published today (October 24) [in Science](#). It could be a novel strategy for helping crops cope with the increased numbers of droughts that researchers predict as the climate changes, the authors say, but must be evaluated for toxicity and environmental impact before use in field tests.

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About 10 years ago, a team led by Sean Cutler, a plant biologist at University of California, Riverside, along with another independent group, discovered a family of receptors that ABA binds to help plants cope with stresses such as cold or lack of water. In 2013, Cutler and colleagues described a small molecule, quinabactin, that targeted those receptors and promoted drought tolerance in Arabidopsis and soybeans.

.... "We characterized [quinabactin] and saw that it was good in some crops but not so good in others," Cutler tells The Scientist. In the current study, his group set out to find an alternative that would be successful in tomato and wheat.

Read full, original article: [Drug Helps Plants Resist Drought: Study](#)