

Biosafety News

GENETIC ENGINEERING TRANSFORMS COMMON PLANT TO PRODUCE CANCER DRUG

Scientists from Stanford University reported in *Science* that they have successfully isolated a cancer-fighting compound from endangered plant Himalayan mayapple and genetically engineered a common laboratory plant to produce the cancer-fighting compound. This study could lead to creating cheaper and more stable source of cancer drug.



In the plant, a number of proteins work together to produce a chemical defense against predators. The chemical defense is modified in the lab and eventually becomes the cancer drug called etoposide. The starting material for this chemical defense is a harmless molecule present in leaves. When predators attack the plant, the harmless molecule transforms into a different form, creating a chemical defense for the plant. The researchers found that after wounding the leaf, 31 new proteins are produced. Then they eventually found that 10 of the proteins are vital for the full assembly line. They placed the genes to produce those proteins into a common lab plant and the plant began producing the chemical they needed. The next step for the researchers is to produce the molecular machinery in yeast, which can be grown in large vats in the lab.

Read the media release from [Stanford University](#) and research article from [Science](#).

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