

# Scientists turn a new leaf to discover a compound in daffodils that targets brain cancer

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When looking for new ways to treat aggressive brain cancers, an international team of scientists turned a new leaf and "discovered" the lowly daffodil. A new research study published in the November 2010 print issue of The *FASEB Journal* offers hope that a natural compound found in daffodil bulbs, called narciclasine, may be a powerful therapeutic against biologically aggressive forms of human brain cancers.

"We are planning to move a narciclasine derivative toward [clinical trials](#) in [oncology](#) within a three to four year period in order to help patients with [brain](#) cancers, including gliomas, as well as brain [metastases](#)," said Robert Kiss, Ph.D., co-author of the study from the Laboratory of Toxicology at the Institute of Pharmacy at the Université Libre de Bruxelles in Brussels, Belgium. "We hope narciclasine could be given to brain cancer patients in addition to conventional therapies."

To make this discovery, Kiss and colleagues used computer-assisted techniques to identify targets for narciclasine in cancer cells. The strongest potential candidate to emerge was the eEF1A elongation factor. Researchers then grafted human melanoma brain metastatic cells into the brains of genetically altered mice. Results showed that the injected mice survived significantly longer when treated with narciclasine than those mice left untreated. The researchers believe that narciclasine selectively inhibits the proliferation of very aggressive

cancer cells, while avoiding adverse effects on normal cells. Narciclasine could be used in the near future to combat brain cancers, including gliomas, and metastases such as melanoma brain metastases.

"Scientists have been digging in odd corners to find effective treatments for brain cancer for decades, and now they've found one in daffodils." said Gerald Weissmann, M.D., Editor-in-Chief of The [FASEB Journal](#), "It doesn't mean that you should eat daisies or daffodils for what ails you, but that modern medicinal chemistry can pluck new chemicals from stuff that grows in the garden. This is a good one!"

**More information:** Gwendoline Van Goietsenoven, et al., Targeting of eEF1A with Amaryllidaceae isocarbostryls as a strategy to combat melanomas *FASEB J.* 2010 24: 4575-4584. [DOI:10.1096/fj.10-162263](https://doi.org/10.1096/fj.10-162263)

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