

## Vital Signs | Nicholas Bakalar

### NOSTRUMS

## In Broccoli Sprouts, Protection From UV Rays

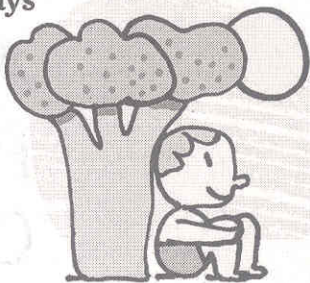
Broccoli as protection against sun exposure? Possibly. And you may not even have to eat it to gain the benefit.

A small study published on Oct. 22 in *The Proceedings of the National Academy of Sciences* has found that an extract from three-day-old broccoli sprouts rubbed on skin produces significant protection against the burns caused by ultraviolet radiation.

The extract, sulforaphane, apparently acts not by preventing rays from reaching the skin, but by provoking an increase in a protective enzyme produced by the skin cells. This reaction requires days to develop, but it continues to work after the substance is washed off.

The researchers applied it to six volunteers of both sexes and exposed them to ultraviolet light. The team measured skin redness with a chromometer at spots covered with sulforaphane and at uncovered spots.

Depending on the dose, sulforaphane reduced burns up to 83 percent compared with similarly ex-



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posed bare skin. The scientists theorize that differences in responses among individuals may be attributable to genetic variations.

Paul Talalay, the lead author of the study and a pharmacology professor at Johns Hopkins, said no one should consider rubbing on broccoli and going out to sunbathe. He makes no medical claims for broccoli sprouts.

"The significance," Professor Talalay said, "is that we've demonstrated in humans that one can protect against what is probably the most common human carcinogen, ultraviolet light. This implies that other human organs might be protected by stimulating other cells with the same compound."