

Naturally occurring substance proves effective against deadly skin cancer in laboratory tests

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For the first time, scientists have demonstrated the mechanism of action of gossypin, a naturally-occurring substance found in fruits and vegetables, as a treatment for melanoma, which causes the majority of deaths from skin cancer.

"We identified gossypin as a novel agent with dual inhibitory activity towards two common mutations that are the ideal targets for melanoma treatment," said Texas Biomed's Hareesh Nair, Ph.D.

At the moment, there is no single [therapeutic agent](#) or combination regimen available to treat all melanomas, of which about 76,000 new cases are diagnosed annually, according to the [American Cancer Society](#).

"Our results indicate that gossypin may have great therapeutic potential as a dual inhibitor of mutations called BRAFV600E kinase and CDK4, which occur in the vast majority of melanoma patients. They open a new avenue for the generation of a novel class of compounds for the treatment of melanoma," Nair added.

His report, appearing in the March 29, 2013 issue of the journal *Molecular Cancer Therapeutics*, was funded by the Texas Biomedical Forum and the Robert J. Kleberg, Jr. and Helen C. Kleberg Foundation.

Nair and his colleagues found that gossypin inhibited human melanoma

[cell proliferation](#), in vitro, in melanoma cell lines that harbor the two mutations. Gossypin stunted activities of the mutated genes, possibly through direct binding with them. It also inhibited the growth of various human melanoma cells. In addition, gossypin treatment for 10 days of human melanoma cell tumors with the mutations transplanted into mice reduced tumor volume and increased survival rate.

Further studies are planned by Nair's team to understand how the body absorbs gossypin and how it is metabolized. This idea has been discussed with the [Cancer Therapy](#) & Research Center at the UT Health Science Center San Antonio's Deva Mahalingam, M.D, Ph.D., who is interested in testing gossypin in melanoma patients.

Provided by Texas Biomedical Research Institute

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