

Antioxidant-boosting GMO purple rice could decrease cancer and other health risks

Researchers in China have developed a genetic engineering approach capable of delivering many genes at once and used it to make rice endosperm—seed tissue that provides nutrients to the developing plant embryo—produce high levels of antioxidant-boosting pigments called anthocyanins. The resulting purple endosperm rice holds potential for decreasing the risk of certain cancers, cardiovascular disease, diabetes, and other chronic disorders. The work appears June 27th in the journal *Molecular Plant*.

“We have developed a highly efficient, easy-to-use transgene stacking system called TransGene Stacking II that enables the assembly of a large number of genes in single vectors for plant transformation,” says senior study author Yao-Guang Liu of the South China Agricultural University. “We envisage that this vector system will have many potential applications in this era of synthetic biology and metabolic engineering.”

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In the future, this transgene stacking vector system could be used to develop plant bioreactors for the production of many other important nutrients and medicinal ingredients. For their own part, the researchers plan to evaluate the safety of purple endosperm rice as biofortified food, and they will also try to engineer the biosynthesis of anthocyanins in other crops to produce more purple endosperm cereals.

[Read the full [study](#)]

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