

## Cancer treatment uses genetically engineered biomaterial to deliver drugs and block resistance

[M]any chemotherapeutic agents [...] cause serious side effects because they kill healthy cells in addition to cancer cells; some forms of cancer develop resistance to drugs; and many such chemotherapies, being poorly water-soluble, demonstrate low bio-availability resulting in sub-optimal drug delivery to cancer cells. A potential solution lies in the synergistic combination of a [chemotherapeutic drug](#) with engineered genetic material designed to neutralize the malevolent genes conferring resistance to that [drug](#), among other functions.

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New hybrid materials developed in the lab at the NYU Tandon School of Engineering use easily modifiable proteins to deliver a chemical one-two punch: they combine a lipid “container” for transfection—the transportation of cargo past a cell membrane—and an easy-to-make [protein](#) capsule that can bind both small chemotherapeutic molecules and nucleic acids.

[researchers](#) type unknown

“Unlike other pursuits at producing dual gene and [drug delivery](#) systems, this approach doesn’t require tedious chemical synthesis procedures; rather we can biosynthesize any variant of the supercharged protein,” [Jin Kim Montclare, an Affiliate Professor of Chemistry at NYU] said. “This allows for substituting different siRNA molecules and chemotherapeutic drugs to suit lab needs.”

**The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion, and analysis. Read full, original post: [Researchers create biomaterial that delivers both a powerful drug and gene silencers](#)**