

LED array signals successful binding of drugdelivery molecules to DNA

March 27 2007



A.J. Prussin II, a second year student at Virginia Tech who is majoring in biochemistry and biology, with a minor in chemistry, has created an LED system that glows a beautiful shade of blue when special molecules successfully bind to DNA. Credit: David Zigler

Biology and chemistry researchers from Virginia Tech are creating molecular complexes to bind to and disrupt the DNA of diseased tissues, such as tumors or viruses. Testing the activity of each of the therapeutic molecule designs has been a time-consuming process. But a student's invention now provides rapid screening to accelerate discovery of



promising new drugs.

Aaron J. (A.J.) Prussin II of Blacksburg, Va., a second year student at Virginia Tech who is majoring in biochemistry and biology, with a minor in chemistry, has created an LED system that glows a beautiful shade of blue when the special molecules successfully bind to DNA. "It allows us to do 100 tests per day, instead of one or two," said Karen Brewer, professor of chemistry at Virginia Tech.

The research will be presented at the 233rd national meeting of the American Chemical Society in Chicago March 25-29.

Pussin and chemistry graduate student David Zigler of Sterling, Illinois, plan next to build an array that will use different colors to signal different DNA interactions. "That capability is important in terms of what color of light you want to use to activate the molecules to bind to or cleave the DNA," Brewer said.

Source: Virginia Tech

Citation: LED array signals successful binding of drug-delivery molecules to DNA (2007, March 27) retrieved 16 June 2024 from <u>https://phys.org/news/2007-03-array-successful-drug-delivery-molecules-dna.html</u>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.