

Nanoparticles: Parkinson's, cancer, heart disease treatments boosted by DNA 'barcodes'

Using tiny snippets of DNA as “barcodes,” researchers have developed a new technique for rapidly screening the ability of nanoparticles to selectively deliver therapeutic genes to specific organs of the body. The technique could accelerate the development and use of gene therapies for such killers as heart disease, cancer and Parkinson's disease.

Genetic therapies...are hard to deliver into the right cells in the body. For the past 20 years, scientists have been developing [nanoparticles](#) made from a broad range of materials...[but with] millions of possible combinations, identifying the optimal nanoparticle to target each organ was highly inefficient.

[R]esearchers from the University of Florida, Georgia Institute of Technology and Massachusetts Institute of Technology have developed a new testing [technique](#) that skips the cell culture testing altogether—and could allow hundreds of different types of nanoparticles to be tested simultaneously in just a handful of animals.

...

“We hope this technique will be used widely in the field, and that it will ultimately bring more clarity to how these drugs affect cells,” said [James Dahlman, an assistant professor in the Wallace H. Coulter Department of Biomedical Engineering at Georgia Tech and Emory University].



A microfluidic chip used to fabricate nanoparticles that could be used to deliver therapeutic genes to specific organs of the body. Credit: Rob Felt, Georgia Tech

[The study can be found [here](#).]

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion, and analysis. Read full, original post:

DNA 'barcoding' allows rapid testing of nanoparticles for therapeutic delivery