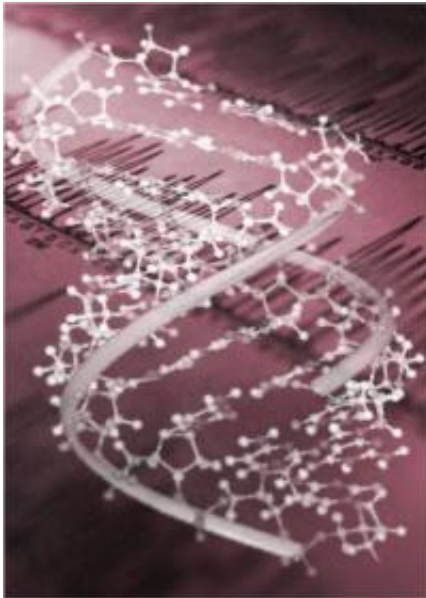


Using graphene oxide to examine molecules in living cells proves popular

February 23 2012



Whether indicating the onset of disease or exposure to toxins, the molecular machinery of cells can provide a wealth of information if scientists can track and examine the molecules.

Scientists at Pacific Northwest National Laboratory and Tsinghua University in China devised a novel method of tracking certain molecules inside live cells. This method uses graphene oxide or [thin sheet](#) of carbon. The sheets are decorated with aptamers, a specialized

molecule that has a strong affinity for its molecular target.

The work demonstrated the dramatic delivery, protection, and sensing capabilities of the graphene oxide nanosheet in living cells and indicated that graphene oxide could be a robust candidate for many biological fields, such as DNA and protein analysis, gene and drug delivering, and intracellular tracking.

In December 2011, the article on this method was one of the most cited articles in the *Journal of the American Chemical Society* in the last three years. To date, the article has been cited 70 times since it was published in June 2010.

More information: Wang Y, Z Li, D Hu, CT Lin, J Li, and Y Lin. 2010. "Aptamer/Graphene Oxide Nanocomplex for In Situ Molecular Probing in Living Cells." *Journal of the American Chemical Society* 132(27):9274-9276. [doi:10.1021/ja103169v](https://doi.org/10.1021/ja103169v)

Provided by Pacific Northwest National Laboratory

Citation: Using graphene oxide to examine molecules in living cells proves popular (2012, February 23) retrieved 5 August 2024 from <https://phys.org/news/2012-02-graphene-oxide-molecules-cells-popular.html>

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.