

Tracking nanodiamond-tagged stem cells

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A method that is used to track the fate of a single stem cell within mouse lung tissue is reported in a study published online this week in *Nature Nanotechnology*. The method may offer insights into the factors that determine the acceptance of transplanted stem cells, and their ability to regenerate within a host.

Stem cell therapy has the potential to repair and regenerate damaged tissues. Implanted cells might, however, be rejected, migrate or die; tracking [stem cells](#) in vivo may help to further understand what happens once these cells are inside the host.

Huan-Cheng Chang and colleagues used fluorescent nanodiamonds to tag lung stem cells and implant them in mice with damaged lungs. They found that not only did the damaged [lung cells](#) of the mice restore rapidly, but that the uptake and regeneration of stem cells could be tracked with single-cell resolution. The authors suggest that, in the future, the technique could also be used to monitor the uptake of different kinds of stem cell, such as bone marrow stem cells.

More information: [DOI: 10.1038/nnano.2013.147](https://doi.org/10.1038/nnano.2013.147)

Provided by ResearchSEA

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