

Cellular alchemy caught in action

February 8 2013, by Bill Hathaway

One of the most critical biological advances in the past decade was the discovery that the introduction of four simple genetic factors can turn a fully mature adult cell back into an embryonic-like state, a process called reprogramming.

Now, Yale School of Medicine researchers have created a video that shows in great detail how this [transformation](#) takes place. The Yale team introduced these [genetic factors](#) into a blood cell and watched as it formed a colony of [pluripotent cells](#), which are capable of becoming many different types of cells.

The reprogramming process holds the promise of creating cell-based therapy for a host of serious diseases. However it has been a mystery how and when an individual cell decides to make this drastic change.

"These movies show that the process is more complicated than we thought. Now that we can see how it happens, we have an opportunity to getting to know the cells better, and control their behaviors better," said Shangqin Guo, research scientist at the Yale Stem Cell Center and lead author of the study, published in the journal [Stem Cells](#).

More information: [onlinelibrary.wiley.com/doi/10 ...
2/stem.1323/supinfo](http://onlinelibrary.wiley.com/doi/10.1002/stem.1323/supinfo)

Provided by Yale University

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