Investigators insert large DNA sequence into mammalian cells

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For the first time, researchers have used a simplified technique derived from a defense mechanism evolved by bacteria and other single-celled organisms to successfully insert a large DNA sequence into a predetermined genomic site in mammalian cells.

The methods used may help investigators genetically engineer cells to produce high levels of certain proteins—for example by placing the DNA sequence of a particular protein at the site of a highly active gene.

"The CRISPR-Cas system has been previously used to insert a foreign DNA sequence into a targeted genomic site in mammalian cells via a process of recombination. Here we showed that the insertion could be performed using a simplified end joining process," said Dr. Lawrence Chasin, senior author of the *Biotechnology and Bioengineering* study. "This simplification may prove especially useful for high throughput targeting approaches."

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