‘More versatile and less error prone’ SATI gene editing could eventually replace CRISPR

[S]cientists at the Salk Institute have developed a potential game changer in this field – a new gene editor called SATI (intercellular linearized Single homology Arm donor mediated intron-Targeting Integration).
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SATI is itself an advance on a new form of gene engineering also developed at Salk, called homology-independent targeted integration (HITI) which can introduce new genes into the DNA without having to cut out the old one. The technique uses an alternate DNA repair pathway to integrate the new DNA.

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SATI uses either of two different types of DNA repair mechanisms to integrate an inserted DNA segment into the genome. This makes it much more versatile and less error-prone.

It can be used to fix different types of mutations, whether they involve the removal, replacement or addition of a part of the DNA strand, in a diverse spectrum of cells, in both dividing and non-dividing states.

Moreover, its target is the noncoding part of the DNA and thus it minimizes the possibility of introducing unwanted changes in the genome. Scientists hope to eventually use SATI to prevent genetic conditions like the neurologic disease called Huntington’s chorea which causes progressive paralysis and death, among others.

Read full, original post: SATI gene editing could replace CRISPR