

THE SELFISH GENE

Relevant for: Science & Technology | Topic: Biotechnology, Genetics & Health related developments

© 2018 The Indian Express Ltd.
All Rights Reserved

On the eve of the Second International Summit on Human Genome Editing in Hong Kong, the Chinese scientist He Jiankui announced that he had used the Crispr/Cas9 gene editing suite on human embryos. The claim was not preceded by the customary peer-reviewed paper, was not accompanied by evidence, and is being taken seriously only because of He's academic standing. However, the impact has been enough to impel 122 Chinese scientists to issue a statement denouncing He's act as "crazy" and a blot on the growing reputation of Chinese science. A global discussion on the implications of designer babies has broken out. But it's premature.

He claims to have edited out a gene from embryos with HIV-positive fathers to stop production of a protein which the virus uses to cross the cell membrane. If they come to term, the offspring produced will not suffer from HIV. However, it is ridiculous to extrapolate from this breakthrough to designer babies programmed to grow Cleopatra's nose or pre-loaded with Vishwanathan Anand's opening game. Even the simplest human characteristics and traits are typically created by the interplay of thousands of genes, and it is technically impossible to edit genetic material on that scale. So the idea of designer babies still remains in the realm of science fiction, but we may be on the brink of preventing specific diseases, where the metabolic pathways of the pathogen are understood at the molecular level, by editing tiny sections of the human genome. Even so, it would be a fraught project, since unintended changes may be introduced in the region of the edited DNA, with consequences that cannot be anticipated.

The uncertainty of accurate gene editing is one of the reasons why the overwhelming majority of genetics researchers are cautious about playing God. Indeed, initial attempts at playing the role would have to be transparent — which He's work is not — and conducted under the oversight of the scientific community, for want of a regulatory framework. At present, nations either ban or do not ban such research, and a more granular approach is required. At the same time, one must recall how much time has been wasted in the controversies over vaccination and genetically modified foods. Genetic engineering to improve human life is inevitable and perhaps researchers like He, who step out of line, would lend urgency to the obvious need for establishing the initial condition — regulation that is transparent and open, yet ruthlessly excludes Dr Frankensteins.

Download the Indian Express apps for [iPhone](#), [iPad](#) or [Android](#)

© 2018 The Indian Express Ltd. All Rights Reserved

END

Downloaded from crackIAS.com

© **Zuccess App** by crackIAS.com