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Editorial

# CRISPR-CAS9 Technology: A Cutting-Edge Technology of Gene Editing

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CRISPR - CAS9 technology is a recently emerged application in gene editing and can target DNA by introducing ds breaks in the genome. The versatility of the technique aligns with usage of the tool with any kind of genome. Now the actual question on the current usage of CRISPR – CAS9 is it ethically correct or not. Recently one Chinese physician used the CRISPR-CAS 9 technique for ART to produce HIV negative offsprings from the HIV positive father parent but he half succeeded with the problem because of the off targets posed by HIV virus when there is a mutation on CCR5 receptor gene of leucocytes. This raised the major ethical question in scientific society and public due to the genome changes the editing going to cause and the consequences the offsprings going to face during their lifetime.

Besides the ethical concerns the technology raised eternally due to its wide applications in biology, agriculture and research. We can target most of the cancer-causing oncogenes which peculiarly expressed in cancer cells through this CRISPR- CAS9 and allowed to fix the damage in the cells by using NHEJ and HR and making them compromised in gene expression finally causing the cell cycle arrest and death due to apoptosis in them.

Second question it is against to ethics to edit the human genome but we can solve the problem by invitro and Ex vivo gene editing by replacing the cancer causing oncogenes in the cancerous tissue with the edited new ones as similar to gene therapy. It will help to cure not only begins tumours but also prevents EMT and malignancy completely there by preventing the relapse of cancer and development of secondary tumours.

Third question usage of CRISPR-CAS9 in genetics treating the genetically inherent disorders like Huntington's disease. Again, it raises the ethical concern of editing the embryonic stem cells but we can solve the typical problem by using invitro and ex vivo methods of stem cell editing collected from cord blood or bone marrow and replenishing the defective enzyme in the cells.

Finally, through these simple techniques we may expect the persons with no genetic disorder and cancer treatment availability in affordable low cost of less than 100 dollars as per CRISPR-CAS 9 technology in near future.