

Genes can be edited using a cheap method known as the CRISPR-Cas9 genome editing system. However, there are problem areas associated with this method of editing genomes. For example, there are off-target mutations, which are mutations not intended by the scientists to mutate by the CRISPR-Cas9 system. Park, J. et al. conceived an experiment to attempt to increase the accuracy and efficiency of CRISPR-Cas9 by creating a chimeric SpyCas9 protein that was combined with the 5'-3' exonuclease Recombination J and with Green Fluorescent Protein. The combination of these proteins was to test the efficiency of gene editing in human and plant cells. The results of their experiment showed that there was a six-hundred percent increase in efficiency without impacting the rate of off-target mutations. This means that gene editing is on a path of becoming more accurate with extreme precision in being able to change the desired genes and not impacting the genotype of the organism in unseen ways. This can be taken to show that gene editing can become a science used to eradicate all illnesses and diseases.

Park, J. et al. Enhanced genome editing efficiency of CRISPR PLUS: Cas9 chimeric fusion proteins. *Sci. Rep.* **11**, 1-9 (2021).