Molecular Lego: Enhancements to CRISPR gene editing could help in treatment of cystic fibrosis

A team of researchers at Western University is playing with molecular-Lego by adding an engineered enzyme to the revolutionary new gene-editing tool, CRISPR/Cas9. Their study… shows that their addition makes gene-editing more efficient and potentially more specific in targeting genes.

In cystic fibrosis, for example, there is one gene mutation which causes the disease in a very large proportion of patients. If it were possible to use CRISPR to cut that mutation out of the genome, the disease could potentially be cured.

“The problem with CRISPR is that it will cut DNA, but then DNA-repair will take that cut and stick it back together,” said the study’s principal investigator, David Edgell, associate professor at Western’s Schulich School of Medicine & Dentistry. “That means it is regenerating the site that the CRISPR is trying to target, creating a futile cycle. The novelty of our addition, is that it stops that regeneration from happening.”

The Western researchers have demonstrated that the creation of a new enzyme called TevCas9, which cuts the DNA in two places instead of one, makes it much more difficult for the DNA-repair to regenerate the site of the cut….

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion, and analysis. Read full, original post: Scientists use ‘molecular-Lego’ to take CRISPR gene-editing tool to the next level