Company-sponsored CRISPR clinical trials set to start in 2018

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This year could be a defining one for CRISPR, the gene editing technique, which has been hailed as an important breakthrough in laboratory research. That's because the first company-sponsored clinical studies will be conducted to see if it can help treat diseases in humans, according to an article in *Chemical & Engineering News* (*C&EN*), the weekly newsmagazine of the American Chemical Society.

C&EN Assistant Editor Ryan Cross reports that a big push is coming from industry, specifically from three companies that are each partly founded by one of the three inventors of the method. They are zeroing in on the blood diseases called sickle-cell anemia and β-thalassemia, mostly because their precise cause is known. In these diseases, hemoglobin doesn't function properly, leading to severe health issues in some people. Crispr Therapeutics and Intellia Therapeutics plan to test the technique to boost levels of an alternative version of healthy hemoglobin. Editas Medicine, however, will also use CRISPR to correct mutations in the faulty hemoglobin gene. Labs led by university researchers are also joining the mix, starting or continuing clinical trials with the approach in 2018.

Because CRISPR is being used to cut a cell's DNA and insert a new sequence, concerns have been raised about the potential for accidents. A cut in the wrong place could mean introducing a new mutation that could be benign—or cancerous. But according to proponents of the method, researchers are conducting extensive computer predictions and in vitro tests to help avoid this outcome.

More information: "CRISPR is coming to the clinic this year," cen.acs.org/articles/96/i2/CRI … ing-clinic-year.html

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