

New CRISPR-Cas9 Tool Could Improve Gene Editing – Technological Advances In The Global CRISPR Technology Market 2020

The Business Research Company's Global CRISPR Technology Market Analysis And Latest News: COVID-19 Impact And Recovery

LONDON, GREATER LONDON, UK, August 7, 2020 /EINPresswire.com/ -- Researchers at the University of California, Berkeley, announced a new understanding of the CRISPR-Cas9 tool on July 30th that could help fix genetic mutations responsible for hereditary diseases. The researchers successfully obtained the first 3D structure of one of the most promising of these tools: base editors, which bind to DNA and, instead of cutting, precisely replace one nucleotide with another. The Business Research Company's global [CRISPR technology](#) market report suggests several such advancements in CRISPR technology as emerging trends. Advancements in technology will help in reducing errors, limiting unintended effects, improving the accuracy of the tool, widening its applications, developing gene therapies, and more.

Base editors, created four years ago, were already in use in attempts to correct single-nucleotide mutations in the human genome. Base editors now available could address about 60% of all known genetic diseases – potentially more than 15,000 inherited disorders – caused by a mutation in only one nucleotide. The detailed 3D structure, reported in the July 31 issue of the journal *Science*, provides a roadmap for tweaking base editors to make them more versatile and controllable for use in patients. A base editor is a type of Cas9 fusion protein that employs a partially deactivated Cas9 – its snipping shears are disabled so that it cuts only one strand of DNA – and an enzyme that, for example, activates or silences a gene, or modifies adjacent areas of DNA.

In 2019, a study published in Springer Nature stated the development of an advanced super-precise new CRISPR tool that allows researchers more control over DNA changes. This tool seems to have the capability of providing a wider variety of gene edits which might potentially open up conditions that have challenged gene-editors. Also, in 2020, another study in Springer Nature stated that researchers have used enzyme engineering to boost the accuracy of the error-prone CRISPR-Cas9 system to precisely target DNA without introducing as many unwanted mutations. The advancements in CRISPR technology will result in better tools that are capable of providing better outcomes.

According to [Global Market Model](#) estimates, the global CRISPR technology market size is expected to increase from \$0.76 billion in 2019 to \$0.92 billion in 2020 at a compound annual

growth rate (CAGR) of 20.91%. The exponential growth is mainly due to the COVID-19 outbreak that has led to the research for drugs for COVID-19 with gene-editing using CRISPR technology. The CRISPR technology market growth is expected to reach \$1.55 billion in 2023 at a CAGR of 19.13%.

The application of [CRISPR technology as a diagnostic tool](#) is expected to boost market growth during the period. The Sherlock CRISPR SARS-CoV-2 kit is the first diagnostic kit based on CRISPR technology for infectious diseases caused due to COVID-19.

In May 2020, the US FDA (Food and Drug Administration) announced emergency use authorization of Sherlock BioSciences Inc.'s Sherlock CRISPR SARS-CoV-2 kit, which is a CRISPR-based SHERLOCK (Specific High-sensitivity Enzymatic Reporter unLOCKing) diagnostic test. This test helps in specifically targeting RNA or DNA sequences of the SARS-CoV-2 virus from specimens or samples such as nasal swabs from the upper respiratory tract, and fluid in the lungs from bronchoalveolar lavage specimens. This diagnostic kit has high specificity and sensitivity, and does not provide false negative or positive results. Widening the application of CRISPR technology for the diagnosis of infectious diseases will further increase the demand for CRISPR technology products and services.

About The Global Market Model

The Global Market Model is the world's most comprehensive database of integrated market information available. The ten-year forecasts in the Global Market Model are updated in real time to reflect the latest market realities, which is a huge advantage over static, report-based platforms.

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