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Merck receives seven additional CRISPR Patents

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Patent offices in Europe, Israel, South Korea and U.K. issue seven additional grants for Merck's CRISPR genome-editing technology



Merck, a leading science and technology company has announced that the European, Israeli, South Korean and U.K. intellectual property offices have issued formal notices allowing seven additional Merck patent application claims covering CRISPR gene-editing technology, bringing the number of patents to 20 worldwide.

"It is encouraging to see this important body of scientific work recognized with the grants of these latest CRISPR patents," said Udit Batra, member of the Merck Executive Board and CEO, Life Science. "Our ambition is to continue growing our CRISPR intellectual property portfolio with technologies such as paired Cas9 nickases, for reducing off-target effects, and proxy-CRISPR, which offers researchers more experimental options to accelerate drug development and access to new therapies."

Details on Merck's latest CRISPR patent awards are as follows:

- European Patent Office — Patent allowances for:
  - Vectors for CRISPR integration. The newly allowed claims cover vector compositions to support CRISPR delivery and expression in eukaryotic cells, including viral delivery methods broadly used in both cancer research (lentivirus) and human therapeutic applications (adeno-associated virus, or AAV).
  - proxy-CRISPR technology, which provides access to modify difficult-to-reach genomic regions, expanding CRISPR design options. This approach also allows a reduction in off-target effects.
  - Engineered Ribonucleic Acid (RNA)-guided endonuclease and protein- RNA complexes.
    - These two newly allowed claim sets cover compositions that can be used for gene knock-in and gene knock-out.
- Israeli IP Office — Patent allowance for:
  - Paired Nickase technology, to reduce off-target effects. Paired nickases represent a significant step in increasing genome-editing safety.
- South Korean IP Office — Patent allowance for:
  - Paired Nickase technology.
- U.K. (IP) Office — Patent allowance for:
  - proxy-CRISPR technology.

In addition to Europe, Israel, U.K. and South Korea, Merck has CRISPR-related patents in the following regions: U.S., Canada, Australia, China and Singapore. The company was awarded its first foundational patent in Australia covering CRISPR integration in 2017, and its first U.S. CRISPR patent for proxy-CRISPR in 2019.

Earlier, Merck announced different CRISPR patents in Europe in 2017 and in South Korea and Israel in 2018.

On July 18, 2019, Merck announced a CRISPR licensing framework with Broad Institute of MIT and Harvard to offer non-exclusive licenses to CRISPR IP under their respective control for use in commercial research and product development. This new framework aims to simplify and accelerate scientific access to CRISPR IP.

On July 19, 2019, Merck filed a petition with the U.S. Patent and Trademark Office requesting an interference proceeding between CRISPR-Cas9 patents the company applied for in 2012 and patents that UC Berkeley has applied for or been awarded.