

# CRISPR patent battle in Europe takes a 'wild' twist with surprising player

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MilliporeSigma, a subsidiary of pharmaceutical giant Merck KGaA of Darmstadt, Germany, has become a new major player in the complicated European patent battles over CRISPR, the revolutionary genome-editing tool.

The European Patent Office (EPO) on 27 July signaled that it **intends to grant a patent** to MilliporeSigma, which operates in the United States and Canada, for the use of CRISPR to splice genetic information into eukaryotic cells. Just such a “knock-in” strategy **made headlines** this week in a controversial experiment that corrected a disease-causing gene in a human embryo. The MilliporeSigma claims explicitly state that “the method does not comprise a process for modifying the germ line genetic identity of a human being.”

The most high-profile patent battle over the CRISPR technology pits a group led by the University of California (UC) against the Broad Institute in Cambridge, Massachusetts, and its collaborators. In **that dispute** over filings at the U.S. Patent and Trademark Office, UC claims its patent covers uses of CRISPR in all types of cells, whereas the Broad says only it deserves patents for the tool’s use in eukaryotes, which is the key marketplace for developing novel human medicines with the technology. “I find it quite fascinating that most people seem to think the patent disputes are between two groups when it’s far more complicated than that,” says Catherine Coombes, a patent attorney with HGF Limited in York, U.K., who has handled some CRISPR-related litigation but is not now involved with what she refers to as “the foundational” intellectual property (IP) at the center of these disputes.

As Coombes explains, there is unlikely to be a “winner takes all” situation in Europe. MilliporeSigma (Sigma-Aldrich in Europe) is one of six parties that filed early CRISPR claims with

EPO. “In Europe it’s quite possible for all six of the early players to have substantially overlapping rights,” Coombes says. “This is a good position for MilliporeSigma to be in. They’re going to have some great foundational IP for their business, which is going to help them massively.” Aside from UC, the Broad, and MilliporeSigma, the other groups include ToolGen, Vilnius University, and Harvard College.

Jacob Sherkow, a patent specialist at the New York Law School in New York City who has followed the CRISPR case closely, says he’s “pretty shocked” by EPO’s decision. The specific claims made by MilliporeSigma, he notes, closely match what the Broad’s lead researcher reported in [a landmark \*Science\* paper](#) in January 2013. But MilliporeSigma filed its claims 6 days before the Broad group. “That’s wild,” Sherkow says. “I’m not sure how this gets resolved. The European patent landscape is now a sight to behold.”