THE AMERICAN LAWYER
ALM.
THE AM LAW LITIGATION DAILY

Litigators of the Week: Quinn Emanuel Gets a Vital Win on Gene-Editing Patents at the PTAB

Ray Nimrod, Matt Robson, and Zach Summers of Quinn Emanuel persuaded the Patent Trial and Appeal Board that their client, the Broad Institute, invented the use of the gene-editing technology CRISPR-Cas9 in plants and animals before two scientists who won the Nobel Prize in 2020 for work on it.

By Ross Todd
March 4, 2022

What's more valuable: a patent or a Nobel Prize?

In 2020 Jennifer Doudna from the University of California at Berkeley was awarded the Nobel Prize in chemistry alongside colleague Emmanuelle Charpentier from the University of Vienna for their work developing CRISPR-Cas9, a genome editing breakthrough that has revolutionized biomedicine. Aside from the scientific bragging rights, the Nobel win grants Doudna access to special free parking on the Berkeley campus.

But this week, in the ongoing legal dispute over the intellectual property behind CRISPR-Cas9, the Patent Trial and Appeal Board found that scientists at Broad Institute, a research group from the Massachusetts Institute of Technology and Harvard University, were the first to successfully use the gene-editing technology in animal cells and the rightful holders of patents for it.

This week **Ray Nimrod**, **Matt Robson** and **Zach Summers** of **Quinn Emanuel Urquhart & Sullivan**, the Broad Institute's lawyers at the PTAB, take home Litigator of the Week honors. Here's hoping the win means good things for their parking situations.

Litigation Daily: Who is your client and what was at stake?

Ray Nimrod: Our client is The Broad Institute, Inc., which is a research organization that convenes a community of researchers from across many disciplines and partner institutions including MIT and Harvard. Broad was founded in 2004 with the goal of fulfilling the promise of genomic medicine, and it takes a deeply collaborative approach to scientific research.

Courtesy photos

(L-R) Ray Nimrod, Matt Robson, and Zach Summers of Quinn Emanuel.

At stake in this proceeding are foundational patents directed to the use of CRISPR-Cas9 in eukaryotic cells (including humans, other animals, and plants). CRISPR-Cas9 is a prokaryotic defense mechanism that has been harnessed as a revolutionary technology that provides the ability to precisely target DNA, such as to cleave and edit the genome of living cells, and holds enormous potential to accelerate life science research, improve biotechnology, and diagnose and treat human disease. The importance of this breakthrough can't be understated. The PTAB's decision here confirms that

these foundational patents were properly issued to Broad.

Who all is on your team and how have you divided the work?

Matt Robson: Much like how Broad approaches research in a collaborative matter, Broad's legal team spans across many different outside firms collaborating with each other and partnering with in-house counsel. For Quinn Emanuel, the core team was Ray Nimrod, me and Zach Summers. Ray served as lead counsel, taking key depositions, making key strategic decisions, and arguing at the priority hearing. I generally took the lead on formulating the strategy for and drafting our motions, as well as taking and defending depositions. Zach took the lead with fact witnesses and other experts, working on their testimony and preparing them for deposition. In a case like this it is important for all members of the team to be immersed and participate in all aspects, so the work was really shared, not divided.

As a follow up to that, two of you have engineering degrees and one of you was an English literature and religion major as an undergrad. I know lots of firms like to have a mix of lawyers with a technical background and generalists in patent cases at the trial court level. What's the advantage of having that sort of team at the Patent Trial and Appeal Board?

Nimrod: For any proceeding it is helpful to have a team with a mix of lawyers with different educational backgrounds. Matt and I have degrees in engineering and now know the technology backwards and forwards. Zach joined the team later. Having someone on the team who comes to the technology with fresh eyes and who is willing to dive in helps immensely in distilling the technology down to what matters and communicating effectively.

Give us the lay of the land. What all have you handled previously for your clients in the broader Crispr patent fight?

Zach Summers: We previously handled an interference between the same parties over CRISPR-Cas9 and secured the Federal Circuit affirmance of the PTAB decision in Broad's favor in that first interference. We also provide support on other matters relating to CRISPR-Cas9.

Your client prevailed in a previous interference with the same parties over Crispr-Cas9 technology several years ago. What was different this time, and how does this change the positions of the parties?

Nimrod: In the previous matter, the PTAB granted Broad's motion that there was no interference in fact between the respective patent claims of the parties, thus ending that matter. The reason there was no interference in fact was that the CVC (the court's shorthand for The Regents of the University of California, University of Vienna, and Emmanuelle Charpentier) involved claims that did not require the use of CRISPR-Cas9 in eukaryotic cells. On the other hand, the Broad involved claims required use of CRISPR-Cas9 in eukaryotic cells. The PTAB's decision meant that there was no ultimate determination in the first proceeding as to who first invented systems and methods for using CRISPR-Cas9 in eukaryotic cells, which was judged to be patentably distinct from and non-obvious over CVC's work in test tubes.

After that interference, CVC filed for new claims that required the use of CRISPR-Cas9 in eukaryotic cells. CVC argued that the PTAB should declare a second interference.

The PTAB declared the second interference, and in the current decision it determined, as between Broad and CVC, who first invented CRISPR-Cas9 systems and methods for using CRISPR-Cas9 in eukaryotic cells. The PTAB considered extensive declaration and deposition testimony from both sides' scientists and experts, as well as the internal laboratory and other records of both parties. It concluded that Broad first demonstrated that CRISPR-Cas9 could be harnessed for use in eukaryotic cells.

For litigators who are unfamiliar with the patent interference process at the PTAB, what are the unique set of concerns you were dealing with in litigating this matter there?

Robson: As some background, an interference is a proceeding declared when two parties file patent applications and are allowed claims for the same or substantially the same invention. An interference is an administrative proceeding before a panel of three specially trained Administrative Patent Judges designed to decide which party invented the subject matter first and therefore which

party is entitled to ownership of patents with claims to the subject matter. An interference is similar to a district court litigation in that it is an adversarial proceeding with motions and oral arguments, though with declarations and depositions taking the place of live trial testimony.

But interference proceedings before the PTAB do have their own unique aspects and procedural rules. For example, there's the matter of the "count" of the interference, which defines the subject matter at issue. Without getting into specifics, it is the touchstone for every dispute and is unfamiliar to even a lot of experienced IP litigators.

What are the key findings here in the decision for your client?

Nimrod: This decision confirms Broad's patents were properly issued. In the decision, the PTAB found that CVC neither conceived of nor actually reduced to practice the eukaryotic CRISPR-Cas9 invention of the count prior to Broad's successful experiments with CRISPR-Cas9 in eukaryotic cells. The judges wrote that "CVC fails to provide sufficient, persuasive evidence of an earlier reduction to practice or conception, as they are legally defined, of each and every element of Count 1 before Broad's evidence of reduction to practice." The judges disagreed with CVC, relying, *inter alia*, on "reports [by the CVC inventors] of repeated failures and correspondence reviewing the possible problems, searching for solutions, and questioning their designs" to conclude that the CVC inventors lacked a conception prior to the October 5, 2012 submission of the Broad manuscript that was later published as Cong *et al*. in the journal Science in 2013.

What was key in the way you worked up this case to getting those findings?

Summers: Rolling up our sleeves and digging into the science and the facts. First, we worked extensively with the Broad scientists who were responsible for the inventive work, including Dr. Zhang, to identify the key scientific facts early, and then let the science guide the strategy. Second, we poured over the record of CVC's work to examine how their scientists fared in trying to demonstrate that the system could be made to work in eukaryotic cells. The record showed that while CVC was encountering obstacles it was unable to overcome, Broad's Dr. Zhang had already succeeded. We let these facts tell the story.

Are there any broader takeaways from this decision to other inventors in burgeoning, competitive fields?

Nimrod: In complex fields, like here, there is room for multiple innovators. It is important to collaborate and stay open to amicable arrangements such as cross-licensing.

Are there any more interferences in the works, or do you expect any future conflict to play out under America Invents Act procedures?

Summers: We are working on two more interferences for the Broad on CRISPR-Cas9. We cannot comment on whether any other proceedings will unfold.

I've read that many parties license the Crispr technology from both the Broad and the CVC parties. Do you expect that to change now?

Robson: Broad has pressed for a joint licensing strategy, or patent pools, for more than eight years—before patents were issued to either party here, with the goal of ensuring open, equitable, and streamlined access to these transformative tools. They are not changing that strategy. Broad would like the technology to be made broadly available and therefore has made clear that it wants CVC to join discussions for an appropriate licensing approach. Broad developed such an approach working with Corteva for licensing CRISPR-Cas9 in agriculture as described in the Broad web page.

What will you remember most about getting this result?

Nimrod: I'll most remember the passion of the scientists that I felt every time I visited the Broad. CRISPR technology is transforming research, and will be especially key for my children's generation and generations thereafter. CRISPR technology can be used to make fundamental advances that could treat and cure human diseases, and improve quality of life around the world. We are truly grateful for the opportunity to work with a client like the Broad, and the scientists who invented this breakthrough technology and are committed to making it broadly and equitably available.