

LSPN Europe 2017: Broad had ‘no clue’ about CRISPR licensing in agriculture

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Issi Rozen, Broad Institute

One of the key players in the CRISPR landscape initially had “no clue” about licensing the technology in the agricultural sector.

Issi Rozen, chief business officer of the Broad Institute of Harvard and MIT, revealed this yesterday, December 6, while speaking at the Life Sciences Patent Network Europe (LSPN) conference in London.

Since 2013, Broad has shared more than 41,000 plasmids and reagents with more than 2,200 institutes across 61 countries, and has spent a lot of time thinking about the framework for licensing.

Rozen explained that within 24 hours of the institute publishing its first CRISPR paper, it was approached by agricultural companies claiming that they needed exclusivity.

The institute then began studying the field. It found that unlike the human therapeutic sector, the agricultural industry was using the technology to improve existing products, rather than creating new ones.

Broad now offers non-exclusive licences and is currently in negotiations with 20 agricultural companies. It already has licences with all the major agricultural companies, said Rozen.

He added that to remove a “roadblock” that threatened to limit the potential of CRISPR/Cas9 in agriculture, the institute agreed to form a joint licensing framework with DuPont Pioneer in October.

DuPont Pioneer held exclusive rights for use of CRISPR technology in agriculture to a different set of CRISPR patents and patent applications, licensed by the University of California, Berkeley.

Now, companies can apply for a non-exclusive licence for agricultural use from the parties.

But the hardest area for Broad is licensing for human therapeutics, something which those at the institute spent “many months” debating.

To deal with this, the institute uses an “inclusive innovation” model, licensing the CRISPR technology to a primary licensee, Editas Medicine.

Editas has the right to exclusively use the technology on its chosen targets for the development of genomic medicines. As the two-year exclusivity period has since expired, other companies can apply to license certain CRISPR IP for use on genes of interest.

After speaking to experts, Broad decided to prohibit the licensing of its CRISPR technology in the agricultural areas of sterile seeds and gene drives.

“There may be cases where gene drives are safe, but the question is whether it is safe to use on a large scale without any prohibitions,” said Rozen. He added that the institute is happy to have conversations on this prohibition, but for now, it prefers to be on the safe side.

Rozen also spoke on a panel with Timo Minssen, professor of law and managing director at the Centre for Advanced Studies in Biomedical Innovation Law, and Catherine Coombes, patent director at HGF.

The discussion turned to the interplay between CRISPR and ethics. Coombes said it will take some time for regulation to get up to speed with such a breakthrough technology, so until then, it is important for parties to consider ethical issues.

Discussing the fast development of prior art in the CRISPR landscape, Minssen said this prior art evolution is not just found in CRISPR, but he added that “I think we need better software tools for scientists to do freedom-to-operate analysis”.

He also said there is a risk that an inventive step gap could emerge, with “more and more things becoming obvious”, and that communication between scientists and patent offices needs to be improved.

Coombes admitted that one of the challenges stemming from the speed of innovation is trying to understand what has become common knowledge. “It is quite difficult, certainly from the patentability side. Keeping up to date with key publications is one of the issues I find problematic.”

She also said that a patent pool for CRISPR proposed by licensing firm MPEG LA is a great initiative and she hopes it goes ahead, particularly in the industrial biotechnology field. However, Coombes questioned whether it was the right system for human therapeutics.

In April, MPEG LA invited CRISPR patent owners to submit their assets for evaluation of their eligibility to participate in a pool. Broad announced its submission to MPEG LA, identifying ten patent families relating to CRISPR technology, and discussions are continuing.

LSPN Europe was hosted by Life Sciences IP Review.