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Re: Prospective Grant of Exclusive Patent Commercialization License: N6, a Novel, Broad, Highly Potent HIV-Specific Antibody and a Broadly Neutralizing Human Anti-HIV Monoclonal Antibody (10E8) Capable of Neutralizing Most HIV-1 Strains to RNAceuticals, as noticed in 85 FR 41607

Dear Chris Kornak,

Knowledge Ecology International (KEI) objects to the proposed exclusive license to RNAceuticals, noticed in the Federal Register (85 FR 41607), for N6, a Novel, Broad, Highly Potent HIV-Specific Antibody and a Broadly Neutralizing Human Anti-HIV Monoclonal Antibody (10E8).

Lack of transparency

Our initial objection is the lack of transparency regarding the license. RNAceuticals does not have a web page, and when we called them to ask questions about the company, the person who answered the phone refused to say who was on the Board of Directors, stated that they would have “no comment” on anything, and then hung up.

This a government-owned invention, but there is no publicly available information on the company seeking the exclusive license, other than they recently hired three senior lobbyists from Van Scoyoc Associates, on issues related to appropriations and health.

Mr. Kornak refused to answer a straightforward question regarding the trials on the licensed inventions, and suggested we simply look at ClinicalTrials.gov. While a keyword search of ClinicalTrials.Gov can be useful, it does not always provide insight into the relevant trials for the licensed technology, particularly in this case where the 10E8 keyword provides nearly a hundred hits.

Congress gave the public the opportunity to comment on proposed exclusive licenses. Questions about the stage of development of an invention are central to the need for exclusivity and whether the terms in a license are not broader than reasonably necessary. Information about proposed licenses to federally-owned inventions should be provided to the public when requested. NIAID is a public institution supported by tax dollars, and is managing a public

comment process. It is imperative that the NIH ise more helpful and transparent about what is being licensed and who the licensee is.

In the past, the NIH Director's office has told NIH technology transfer officers to withhold information about licenses from KEI. It would be unfortunate if that is still the case.

Geographic Scope

KEI is among the signatories to a separate letter on the issue of the geographic scope of the license. That letter objects to making the license for HIV treatment or vaccine patents exclusive in countries with incomes that are 30 percent or less than the United States, as measured by the GNI per capita (Worth Bank Atlas Method). In 2019, the U.S. had a per capita income more than seven times that of Brazil, ten times that of South Africa and 30 times that of India. Most large drug companies with HIV drugs provide non-exclusive licensing of patents through the Medicines Patent Pool for South Africa and India. For this invention, the NIAID is seeking exclusivity in all BRICS countries, and this will make it extremely difficult for any countries to obtain a biosimilar version of any drug or vaccine that uses the patents. Most persons living with HIV live in resource-poor settings, and the proposed exclusivity is unacceptable because it grants a monopoly in countries that can barely afford even generic drugs. This is not necessary to advance development of the products. The proposed geographic scope reflects a disturbing indifference by NIAID to the health and lives of persons living with HIV in developing countries.

Field of Technology

While the title of the notice emphasizes HIV, the field of use is not limited to HIV:

> The prospective exclusive patent commercialization license territory may be worldwide and the field of use may be limited to: (1) Administration to humans of DNA and/or RNA including without limitation modified RNA encoding a protein or proteins, containing all or some of the CDRs of N6 and (2) Administration to humans of DNA and/or RNA including without limitation modified RNA encoding a protein or proteins, containing all or some of the CDRs of 10E8.

We ask if these inventions will have a use for non-HIV illnesses? There are 94 studies in ClinicalTrials.gov that are identified with the search term 10e8, including one involving coronavirus, dozens involving cancer, and several other diseases. The proposed field of use seems overly broad, particularly if the inventions can create barriers to products developed by others for non-HIV diseases.

The 35 U.S.C. 209 analysis

35 U.S.C. 209 has several restrictions on the grant of an exclusive license.

In 209(a)(1), the agency has to determine if exclusivity is a reasonable and necessary incentive to induce the investments to bring an invention to practical application.

> (a) Authority.—A Federal agency may grant an exclusive or partially exclusive license on a federally owned invention under section 207(a)(2) only if—
>
> > (1) granting the license is a reasonable and necessary incentive to—
> > (A) call forth the investment capital and expenditures needed to bring the invention to practical application; or (B) otherwise promote the invention's utilization by the public;

Additionally, and highly relevant to this case, if some exclusivity is warranted, and clearly NIAID thinks it is, the agency still has to determine the scope of exclusivity, and is required to ensure that that the proposed scope of exclusivity is not greater than reasonably necessary:

> (a) Authority.—A Federal agency may grant an exclusive or partially exclusive license on a federally owned invention under section 207(a)(2) only if—
>
> . . .
>
> > (2) the Federal agency finds that the public will be served by the granting of the license, as indicated by the applicant's intentions, plans, and ability to bring the invention to practical application or otherwise promote the invention's utilization by the public, and that the proposed scope of exclusivity is not greater than reasonably necessary to provide the incentive for bringing the invention to practical application, as proposed by the applicant, or otherwise to promote the invention's utilization by the public;

Given the general lack of transparency by the NIH regarding its licensing practices, it is challenging to evaluate the agency's diligence in complying with the statute. However, it appears from what we do know that under Dr. Collins' leadership, the agency is highly prone to issuing licenses that are worldwide, life of patent, and without any conditions on pricing. This leaves only the field of use as a possible limit on the scope of exclusivity, and even this seems wide open.

In the view of KEI and others, no exclusive license should be granted until the NIH conducts some type of economic analysis to determine if exclusivity can be limited to less than the life of the patent, as was the case, for example, for all extramural funded patents when the Bayh-Dole Act was passed in 1980, and under previous NIH Directors, for example in the case of the ddI license, for a different HIV drug.

> Videx® Expanding Possibilities: A Case Study, National Institutes of Health Office of Technology Transfer, September 2003. https://www.ott.nih.gov/sites/default/files/documents/pdfs/VidexCS.pdf)

> “The technology transfer challenge was to negotiate a license that would provide a strong incentive for a drug company to make the significant investment necessary for the rapid development of a new drug while ensuring the long-term public health benefits. This balance was struck by offering a license that was initially exclusive, but which could became non-exclusive early, prior to the expiration of the NIH patents. Several companies competed for the license.”

Any exclusive license to RNAceuticals should limit the number of years of exclusivity to that which are “reasonably necessary to provide the incentive for bringing the invention to practical application,” and this requires an evaluation of the risks and costs of trials and other R&D necessary to advance a product to regulatory approval, and the potential market for a product upon such approval.

Currently the patents referenced in the license have an initial expiration date for 2032 to 2036, and as you know, these dates can be extended. We propose that the exclusivity not exceed five years from the date of the first regulatory approval, or eight years from the granting of the license, the original term periods in the 1980 version of the Bayh-Dole Act, which stated:

> **PL 97-517**
>
> “(7) In the case of a nonprofit organization, . .
> (B) a prohibition against the granting of exclusive licenses under United States Patents or Patent Applications in a subject invention by the contractor to persons other than small business firms for a period in excess of the earlier of five years from first commercial sale or use of the invention or eight years from the date of the exclusive license excepting that time before regulatory agencies necessary to obtain premarket clearance unless, on a case~by-case basis, the Federal agency approves a longer exclusive license. If exclusive field of use licenses are granted, commercial sale or use in one field of use shall not be deemed commercial sale or use as to other fields of use, and a first commercial sale or use with respect to a product of the invention shall not be deemed to end the exclusive period to different subsequent products covered by the invention

Sales targets and exclusivity terms

We also suggest the NIH consider narrowing the scope of exclusivity by using sales targets to trigger shorter terms, such as by reducing exclusivity for one year for every half billion dollars in sales after the first billion dollars of sales.

Limit US exclusivity

Another alternative that should be considered is to grant exclusive rights in high income countries, but not in the United States, or at least, to have the U.S. exclusivity shorter than the exclusivity in other high income countries.

40 U.S.C. § 559

We insist that the NIH seek the advice of the U.S. Attorney General, as is required by 40 U.S.C. § 559(b)(1). Such a review may be particularly important given both the broad field of use and the fact that 10E8 is mentioned in more than 90 clinical trials in ClinicalTrials.gov.

Additional issues if an exclusive license is granted to RNAceuticals

KEI requests that the NIH includes the following additional provisions to protect the public's interest in NIH-funded technology:

Price discrimination. Any medical technology using the patented invention should be available in the United States at a price that does not exceed the median price in the seven largest economies by GDP that have at least 50 percent of the GNI per capita as the United States, using the World Bank Atlas method. This is a modest safeguard.

Low and middle income countries. As noted above, the exclusive licenses should not extend to countries with a per capita income less than 30 percent of the United States, in order to ensure that the patents do not lead to restricted and unequal access in developing countries. If the NIH rejects this suggestion, it needs to provide something that will give effect to the policy objective in the "United States Public Health Service Technology Transfer Policy Manual, Chapter No. 300, PHS Licensing Policy," which states the following: "PHS seeks to promote commercial development of inventions in a way that provides broad accessibility for developing countries."

Global registration and affordability. The licenses should require the licensee to disclose the steps that each will take to enable the timely registration and availability of the medical technology at an affordable price in the United States and in every country with a demonstrated need, according to the Centers for Disease Control and Prevention (CDC) and/or the World Health Organization (WHO), either by supplying a country directly at an affordable, publicly disclosed price and with sufficient quantities, or by providing technology transfer and rights to all intellectual property necessary for third parties to do so.

Medicines Patent Pool. The NIH should retain a right to grant the WHO, the Medicines Patent Pool or other governments the rights to use the patent rights to procure the medical technology from competitive suppliers, including technology transfer, in developing countries, upon a finding by HHS or the WHO that people in these markets do not have sufficient access to the medical technology.

Transparency of R&D outlays. The licensees should be required to file an annual report to the NIH, available to the public, on the research and development (R&D) costs associated with the development of any product or service that uses the inventions, including reporting separately and individually the outlays on each clinical trial. We note that this is not a request to see a company business plan or license application. We are asking that going forward the company be required to report on actual R&D outlays to develop the subject inventions. Reporting on actual R&D outlays is important for determining if the NIH is meeting the requirements of 35 U.S.C. § 209, that "the proposed scope of exclusivity is not greater than reasonably necessary to provide the incentive for bringing the invention to practical application." Specifically, having data on actual R&D outlays on each clinical trial used to obtain FDA approval provides evidence that is highly relevant to estimating the risk adjusted costs of bringing NIH licensed inventions to practical application.

Additional Transparency issues

The license should have provisions that give effect to the transparency norms set out in WHA72.8 "Improving the transparency of markets for medicines, vaccines, and other health products", a resolution enthusiastically supported by HHS last year.

In any case please notify KEI if a license is actually granted, so we can request a copy under the FOIA.

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