January 7, 2019

Jasmine Yang, PhD
Senior Licensing and Patenting Manager
NCI Technology Transfer Center
9609 Medical Center Drive, RM 1E530 MSC 9702
Bethesda, MD 20892-9702
Via Email: jasmine.yang@nih.gov

Re: 83 FR 65694, Prospective Grant of an Exclusive Patent License: "Multifunctional RNA Nanoparticles and Methods of Uses" and "RNA/DNA Hybrid Nanoparticles Modified With Single Stranded RNA Toeholds and Uses Thereof", to Sixfold Biosciences Inc.

Dear Dr. Jasmine Yang,

We are writing to express opposition to an exclusive license on the patent portfolio described in 83 FR 65694, regarding "Multifunctional RNA Nanoparticles and Methods of Uses" and "RNA/DNA Hybrid Nanoparticles Modified With Single Stranded RNA Toeholds and Uses Thereof," to Sixfold Biosciences Inc.

We note that Sixfold Biosciences, although recently incorporated in California, is a United Kingdom-based start-up company, and does not have a record of successful development of any technology. The web page at https://www.sixfold.bio/ has only a few pages. The company Twitter account (https://twitter.com/sixfold_bio) was created in April 2018, and as of this morning, had 47 tweets, mostly linked to promotional stories about the founders. Linkedin lists four employees, one from Italy and three from the UK.

We consulted with, and concur with, the findings of an expert advisor, who reviewed the Federal Register Notice and stated that a broad exclusive license is inappropriate for a platform technology.

> "For a platform technology, unless the company is founded around the platform (which is not the case here), I think a license that is exclusive in a field — ideally defined by a specified indication (not all cancer, but specific to tumor type) — is more appropriate. This preserves the commercial benefit for a therapeutic product while still encouraging licenses for other therapies for other diseases."

In the event that the NIH makes the enormous mistake of giving a small UK start-up company a broad worldwide monopoly on a platform technology developed at the NIH, we ask that the following safeguards be placed on the license.

1. Any products 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 for a license to a UK company. We note that UK (and other foreign) companies have a long history of charging higher prices in the United States than in the UK or other high income countries.

2. The exclusive license does 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.

3. Reduce term of exclusivity when revenues are large. We propose that the exclusivity of the license be reduced when the global cumulative sales from products or services using the inventions exceed certain benchmarks. This request is consistent with the statutory requirements of 35 USC § 209, which requires that "the proposed scope of exclusivity is not greater than reasonably necessary to provide the incentive for bringing the invention to practical application." One possible implementation of revenue benchmarks is as follows: exclusivity for any specific product or service will be reduced by one year for every $500 million in revenue equivalents, earned after the first $1 billion, where revenue equivalent is defined as global cumulative sales for the specific product or service, plus any market entry rewards, the cash value of priority review vouchers, as well as government grants or tax credits, for the product or service using the invention. However, the NIH could choose different benchmarks, so long as the limits on exclusivity address the requirements of 35 USC § 209, that the incentive is "not greater than reasonably necessary."

4. The licensee 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 will 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 USC § 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.

Sincerely,

James Love
james.love@keionline.org

on behalf of:

HealthGap
Knowledge Ecology International (KEI)
Social Security Works (SSI)
Union for Affordable Cancer Treatment (UACT)

Professor Brook Baker, School of Law, Northeastern University