January 4, 2017

Dr. Francis Collins, M.D., Ph.D., Director
National Institutes of Health
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David A. Lambertson, Ph.D., Senior Technology
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Dear Director Collins and Dr. Lambertson:

Knowledge Ecology International (KEI) is writing to express our opposition to the proposed exclusive license of a portfolio of patents to Kite Pharma, since October a wholly-owned subsidiary of Gilead, for chimeric antigen receptors that recognize the CLD30 protein, as posted in the Federal Register notice 82 FR 60406.

We object to the granting of the exclusive license, and request that if the NIH proceeds with the license, public interest safeguards are included.

1. Background

The Federal Register notice identified several forms of cancer that may be treated with the technology, including Hodgkin's Lymphoma (HL), Non-Hodgkin's Lymphoma (NHL), diffuse large B cell lymphoma (DLBCL), peripheral T-cell lymphoma not otherwise specified (PTCL-NOS), anaplastic large cell lymphoma (ALCL), and angioimmunoblastic T-cell lymphoma (AITL).

The inventor listed in the patent applications referred to in the Federal Register notice is James N. Kochenderfer, M.D.

The technology to be licensed appears to be undergoing an NIH funded Phase 1 trial with the ClinicalTrials.gov identifier: NCT03049449.

The NIH proposed worldwide rights, and has filed a patent application with the WIPO PCT seeking protection in the following countries:

Pub. No.: WO/2017/066122
International Application No.: PCT/US2016/056262
Publication Date: 20.04.2017
International Filing Date: 10.10.2016
Applicants: THE UNITED STATES OF AMERICA, AS REPRESENTED BY THE SECRETARY, DEPARTMENT OF HEALTH AND HUMAN SERVICES [US/US]; Office of Technology Transfer National Institutes of Health
Inventors: KOCHENDERFER, James N.

Designated States:

AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

African Regional Intellectual Property Organization (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW)

Eurasian Patent Organization (AM, AZ, BY, KG, KZ, RU, TJ, TM)

European Patent Office (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR)

African Intellectual Property Organization (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

2. It is premature to grant an exclusive license, given the fact that the NIH is funding a Phase 1 trial.

We object to the NIH licensing this promising technology before the patent has been granted, and before the NIH concludes and evaluates the results from the ongoing Phase 1 trial, which

began on March 17, 2017 and currently has an estimated primary completion date of June 30, 2021, according to the NIH database ClinicalTrials.Gov.

In an environment where there is widespread alarm over the escalating costs of treatments for cancer and Congressional concerns over the pricing of NIH-funded biomedical inventions, it is unwise for the NIH to create a monopoly on this NIH-funded invention, before the NIH can evaluate both the evidence from the ongoing Phase 1 trial and the costs of moving the technology forward to FDA approval, if the Phase 1 results are encouraging.

Evaluating the costs of obtaining FDA approval would entail a comparison of the costs that the NIH would incur directly if it were to conduct the result itself, versus the costs imposed on U.S. patients, employers and taxpayers if the NIH grants a legal monopoly to Gilead.

If the costs of the NIH funding the R&D itself directly leads to significant savings over the costs to U.S. residents of granting a legal monopoly, the NIH should not grant the monopoly.

3. **If the NIH grants an exclusive license, it should include clear safeguards in the license to protect U.S. residents from excessive prices and access barriers.**

    a. The price should not discriminate against U.S. residents.

At a very minimum, the NIH should include a provision in the licenses that would ensure that the price for a product or service that relied upon the invention would not be more expensive in the United States than the median price charged for a group of countries that include Canada plus the eight largest economies in the world that also have a nominal per capita income at least 50 percent of that of the United States (as measured by GNI, World Bank Atlas method).

    b. The price should not constitute an unreasonable barrier to access in the United States.

If there is a significant gap between the number of patients who would benefit from the treatment and the number of patients who receive the treatment, the monopoly should be terminated.

    c. The price should not be higher than CAR T treatments of similar efficacy, taking into account differences in patient populations, if the cumulative revenue per indication is less than $300 million.

We note that the two previous CAR T procedures approved by the FDA involved a small number of patients in trials, including, for example, Yescarta, also licensed by the NIH to Gilead/Kite, whose FDA press release stated “The safety and efficacy of Yescarta were established in a multicenter clinical trial of more than 100 adults . . . ”

d. The price should not increase faster than the rate of inflation as measured by the consumer price index, unless the increase can be justified by a need to earn a reasonable profit on the risk adjusted investments in research and development.

Alternatively, if revenues are robust, there could be a requirement that prices decline as companies reach certain benchmarks.

e. The revenues earned under exclusive rights should not be excessive.

When the cumulative global revenue for the product exceeds a particular benchmark, the monopoly should end. We recommend the benchmark for this product be $300 million, for each approved FDA indication, or $1 billion for all indications.

4. **The NIH should protect patients in countries with per capita incomes that are less than one third of U.S. per capita income.**

The NIH should either limit the exclusive rights to countries that have at least one third U.S. per capita income, as measured by the World Bank Atlas method GNI per capita, or place requirements that products in such countries be affordable.

5. **The NIH should require transparency with regards to R&D outlays.**

It is an unnecessary and reason-inhibiting fact that actual R&D outlays are often hidden from the public, although speculation about R&D costs is used to justify high prices. The NIH can remedy this by requiring that companies that license NIH-owned technologies disclose to the public the actual R&D costs for commercializing inventions, along with all public sector R&D subsidies, such as the Federal R&D and Orphan Drug tax credits.

Sincerely,

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