July 5, 2022

The Honorable Xavier Becerra
Secretary of the Department of Health and Human Services
200 Independence Avenue, S.W.
Washington, D.C. 20201

Subject: Advanced Research Projects Agency (ARPA-H) California Coalition

As a coalition of leaders and organizations from business, education, science, government, and economic and workforce development, representing the interests of the community as well as the current and future workforce, we are united in our support for the state of California as the home for the ARPA-H Headquarters.

Revolutionizing Health Tech and Outcomes: ARPA-H and California Life Sciences

On President Biden's first day in office, Covid-19 was of top priority, with new mandates implemented to reduce the surge of cases in an unprecedented and historical moment in America. Despite the challenges, the national response to Covid-19 has spurred scientific innovation and an opportunity to harness our collective momentum to develop life-changing health solutions. These collaborative efforts demonstrate our ability to overcome barriers to advancing research and development, resulting in incredible medical breakthroughs like rapid vaccine production and wearable technology as early illness detection devices. As we look toward the future, the Biden-Harris Administration is proactively creating the Advanced Research Projects Agency for Health (ARPA-H) to harness the most successful biomedical ecosystem in the world, speeding health research and ultimately developing health solutions that serve all Americans.

Just as technological innovations spur growth, new opportunities are created that bridge technology with innovative ideas to develop medical breakthroughs. Mirroring the Defense Advanced Research Projects Agency's (DARPA) technological discoveries that have shaped our world, advanced health research can create global lifesaving and quality of life-enhancing developments through bold action. ARPA-H has the potential to revolutionize how we prevent, treat, and cure the world's most pervasive diseases such as cancer, diabetes, ALS, and Alzheimer's, priming California's capacity to foster innovative life sciences research. The mission of ARPA-H, combined with California's innovative ecosystem and talent pipeline, can propel the United States into the next generation of healthcare.

Preparing California's Life Sciences to Lead Nationwide Advancements

California is a natural home for ARPA-H due to its strong presence of biotech companies, nationally ranked biomedical science research institutions, and robust talent pipeline. The number of life science establishments continues to grow each year, with now over 12,914 establishments operating in the

state.[1] Our state leads the nation in academic bioscience research, one of the fastest growing since 2015.[2] This sector directly contributed over $230 billion to state economic output and an additional $173 billion generated through its supply chain in 2020.[3] It is responsible for 1.38 million jobs with a labor income of $131 billion annually.[4] Life sciences employment growth is supported by R&D labs throughout California, boasting a total lab and office footprint of 58,000,000 square feet,[5] with more under development.

The Golden State also benefits from the proximity to academic innovation, which is a driving influence in biotech advancement. California is among the leading states to receive National Institutes of Health (NIH) funding that supports a diverse portfolio of lifesaving and community-focused projects. In 2021, the NIH awarded California institutions $4.7 billion.[6] The top institutions of higher education that received these funds were UCSF, Stanford University, UCLA, UCSD, and USC. Similarly, research institutions that received substantial awards include Scripps Research Institute, Kaiser Permanente, Salk Institute for Biological Studies, Gladstone Institute, and Buck Institute. UC Health, through an array of UC universities throughout California, has pioneered new medical discoveries that have changed treatment practices for the better. These medical discoveries, from the first total shoulder replacement to the development of an artificial kidney, have propelled the modern biotech industry.[7] California Community Colleges are also part of the biotechnology ecosystem, with the largest number of community college biotech educational programs (28) nationwide and several Advanced Technological Education (ATE) projects.[8]

The state continues to foster new and existing programs that accelerate the growth of biotech industries. Under the umbrella of the Governor's Office of Business and Economic Development (GO-Biz), the Office of Small Business Advocate (OSBA) Inclusive Innovation Hub program (iHub2) serves as a bridge between local innovation ecosystems and state technical assistance, resources, and networks, supporting underserved regions and promoting equitable growth.[9] GO-Biz facilitates industry expansion and innovation via the California Competes Tax Credit Program (CCTC), an initiative that awards a tax credit to businesses meeting yearly milestones on salary, employment, and project investment. In 2019 alone, $2.9 billion of allowed research tax credits and $55.2 million of CCTC accounted for nearly 86% of the total allowed corporate tax credits for that year - a clear indication of California's commitment to bolster our ongoing research and development efforts.[10] To further support technical innovation,

[1] Sector Report 2021 – California Life Sciences
[2] The Bioscience Economy – TEConomy/Bio
[3] Sector Report 2021 – California Life Sciences
[4] Biocom California's 2021 California Economic Impact Report (cabiotech.org)
[5] U.S. Life Sciences Trends 2021 - CBRE
[6] NIH Awards by Location and Organization - NIH Research Portfolio Online Reporting Tools (RePORT)
[7] Health Innovations – UC Health
[8] California Biotech Education & Organizations - Innovatebio
[9] iHub2 Network – CalOSBA
[10] Corporate Income Tax Data – CA Franchise Tax Board

California has restored R&D tax credits that have shaped the state's retention of one-fifth of the total U.S. R&D investments. The CA R&D tax credits support the biotech ecosystem via public university hospitals and cancer centers.[11]

Governor Newson, through SB 113, has restored NOL's which remove the limit on R&D business tax credits, allowing companies to effectively utilize financial resources to build capacity. This deduction can be particularly impactful for R&D driven corporations that may incur larger losses during early stages of marketization and growth.[12] California leads the country in total life sciences employment (at ~320K direct jobs and over 600K indirect/induced jobs[13]) and the number of specialty life sciences PhD's, often necessary for independent and industrial R&D.[14] Our access to world-class academic universities and institutions, coupled with our financial capital and a strong biotech presence, cultivates an R&D growth in recent years that is top tier across premier life sciences markets.[15]

Additionally, California leads the nation in bioscience patents, comprising 30% of all patent awards between 2016 and 2019.[16] Patents have topped 1,000 each year since 2010[17] and nearly 1,700 patents were granted to California entities for life science products and solutions in 2020. Since 2000, the life science field in California has generated over 23,000 patents.[18] This production level reflects the quality of California's biomedical research infrastructure and its proven capacity to produce advanced technology with widespread impacts.

California is uniquely equipped to generate new health breakthroughs through its vast array of biomedical and biotechnology industry leaders, including hospitals, patients, and biopharmaceutical companies. California biopharma companies sponsor thousands of clinical trials annually, with access to a patient pool that streamlines research and development. Its diverse ecosystem of subsectors contributes further to shared research and innovation. California is also competitive in biopharmaceutical manufacturing, medical devices, diagnostic equipment, and associated research activities.[19]

Venture firms have supported life sciences companies throughout California for decades, cultivating an exceptionally innovative biosciences industry. The state has accounted for nearly 40% of the national venture investment in bioscience over the last six years.[20] Last year, 37% of all U.S. life sciences venture

[11] Research and Development – CA Franchise Tax Board
[12] Corporate Income Tax Data – CA Franchise Tax Board
[13] 2020 Sector Report – California Life Sciences Association
[14] Biotechnology in California - EDD
[15] U.S. Life Sciences Trends 2021 - CBRE
[16] The Bioscience Economy – TEConomy/Bio
[17] Biocom California's 2021 California Economic Impact Report (cabiotech.org)
[18] Ibid
[19] Health Innovations - California Biotech Foundation
[20] The Bioscience Economy – TEConomy/Bio

capital funding was invested in California.[21] We are committed to supporting these scientific advances and the valuable networks that stimulate positive health outcomes for our citizens and communities.

Cultivating Innovation that Supports Our Communities

As California leaders, scientific research organizations, academia, community members, and businesses we are committed to advancing biomedical innovation and supporting our state's vibrant life sciences industries. Hosting ARPA-H is a natural next step for our robust biotech industry. We have a deep capacity to support and enrich the life sciences' breakthroughs in health care. ARPA-H will empower statewide organizations and establishments to leverage their knowledge and resources and shape the future of health and medicine.

The undersigned coalition represents a broad and diverse set of stakeholders inclusive of the California Congressional Delegation, institutions of higher education, scientific research leaders, local jurisdictions, labor organizations, economic development organizations, trade associations and businesses. It is with great excitement we express our support for the state of California as the premier location for the ARPA-H headquarters.

Sincerely,

CC: Lawrence A. Tabak, D.D.S., Ph.D., Acting Director, National Institutes of Health (NIH)
Adam H. Russell, D.Phil., Acting Deputy Director, ARPA-H

[21] U.S. Life Sciences Trends 2021 - CBRE